

MANUFACTURERS RECORD

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A Weekly Newspaper Devoted to the Industrial, Financial, Railroad,
Mining, Contracting, Engineering, Building, and General
Business Interests of the South and Southwestern States

Vol. 72
No. 17

ESTABLISHED 1882

\$4.00 Per Year
Single Copy 15 Cents

Liberty Loan Bonds

The Supreme Question of the Hour

The Supreme Duty of American People

BALTIMORE, OCTOBER 25, 1917

Bethlehem Steel Company

South Bethlehem, Pennsylvania

PIG IRON: Basic, Bessemer, Foundry, Low Phosphorus, Mayari, Ferro-Manganese, Spiegeleisen.

CASTINGS: Steel and Iron, Brass, Bronze and Manganese.

FORGINGS: Drop, Hammered, Hydraulically Pressed, Solid and Hollow, Rough and Finished Machined.

RAILS: Standard, Girder, Guard, High Tee, Industrial; Splice Bars, Tie Plates, Bolts, Frogs, Switches, Signals.

SWITCH STANDS: To Meet Every Track Condition; High, Intermediate and Low Stands, Adjustable and Non-Adjustable.

MANARD ANVIL-FACE FROGS: Equipped with "Mayari" Never-Turn Bolts. All Bolts Receiving Side Thrust of Wheels Are HEAT TREATED.

STRUCTURAL STEEL SHAPES: Bethlehem Beams, Girders and Columns; Standard Beams, Channels and Angles.

TOOL STEELS: Carbon, High Speed, Drill, Finishing and Special.

STANDARD, ALLOY and SPECIAL STEELS: Chrome Nickel, Chrome Vanadium, Mayari, Case Hardened, Special; Treated, Tempered and Cold Drawn.

TIN PLATES: Black, and Tinned Plates; Stamping Stock, and Sheets of Every Description.

BAR IRON: Refined Bar Iron, Double Refined, Chain, Staybolt, Special Staybolt and Engine Bolt Iron.

BOLTS: All Kinds, Plain and Galvanized, Machine, Carriage, Lag, Plow and Patch, HEAT TREATED Simple Alloy Mayari Steel Frog, Track and Fitting-up Bolts.

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RIVETS: Boiler, Bridge, Structural, Ship, Tank and Tap.

SPIKES: Steel and Iron, Standard Railroad, Screw Railroad Track, Universal Screw, Boat, Dock and Wharf, Pressed and Rolled.

ENGINEERS AND BUILDERS OF SPECIAL MACHINERY,

Forgings and Castings for Large Marine Engines,

Hydraulic Beam and Gap Shears, Plate Bending Rolls, Intensifiers, Flanging and Forging Presses.

FURNACE and FOUNDRY COKE and COKE BY-PRODUCTS,

Ammonium Sulphate, Benzol, Crude Napthaline, Solvent Napthas, Toluol, Tar.

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Gun Carriages, Limbers and Caissons, Gun Forgings, Torpedo Air Flasks, Armor Plate,

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"LENGTHENS YOUR DAYS"

TRADE MARK, REG. U.S. PAT. OFF.

Good Lighting and Its Relation to Factory Efficiency

White is the transportation equipment that carries daylight and artificial light to every square foot of your factory interiors—it is the distributing medium that you must use to secure the best results from your factory lighting.

Exactly as the motor truck and railroad are superior to the horse and wagon in delivering your output to your customers, so are white walls superior to dark walls in delivering light to the employees in your factory.

The one way to secure the full benefit of your present system of lighting is by coating the walls, ceilings and columns of your workrooms with

ARCO-RAYS

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Stays White and Stays On

This is the brush applied white that goes on white and stays white. Arco Rays insures 80% light diffusing power over the longest period of time by remaining white longer than any other brush applied coating. Arco Rays will not chip, crack or flake. All of these undesirable elements have been eliminated in the laboratory and factory by our treatment of the oils used.



Write today for our interesting and valuable book "Factory Lighting and Its Relation to Factory Efficiency." It belongs on the desk of every factory executive.

| Condition of Ceiling | Condition of Walls | Calculated Illumination |
|----------------------|--------------------|-------------------------|
| Very Dark | Very Dark | 00% |
| Medium | Very Dark | 15% |
| Medium | Medium | 30% |
| Very Light | Very Dark | 30% |
| Very Light | Medium | 55% |
| White | White | 80% |

This table points out at a glance why you must use white to secure the greatest lighting efficiency.



Statistics show that 23.8% of accidents in industrial plants is directly traceable to a lack of proper lighting.



Statistics show that improper and inadequate lighting is the cause of 28% of the gross spoilage in American factories.

THE ARCO COMPANY

General Offices: Cleveland, Ohio

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MAKERS OF HIGH GRADE PAINTS, VARNISHES AND ENAMELS

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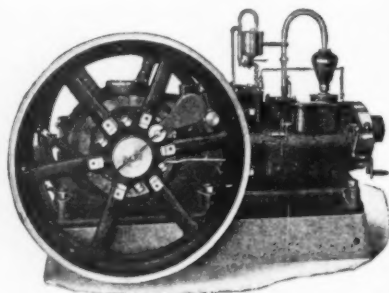
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are built for service—constant service. The installation of a MIETZ means economy and reliability always.

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INCORPORATED FEBRUARY 1, 1870.

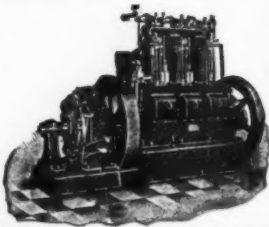
Engine on Exhibit in the Bourse, Philadelphia, Pa.

THE FOOS

Run on Oil and Gas

1½ to 400 H. P.

Inbuilt Quality explains the leadership of this great engine—for instance, the 28 years' record of the engine owned by Frank R. Lemon, Vicksburg, Mich., and thousands of other engines that have been in operation from 10 to 25 years.



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Cast Teeth Machine
Molded or Teeth Machine Cut.
Spurs, Bevels, Miters,
Worm Wheels, Worms,
Mortise Wheels.
Made of Cast Iron, Cast Steel,
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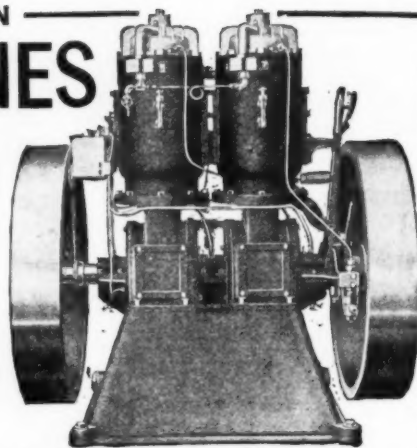
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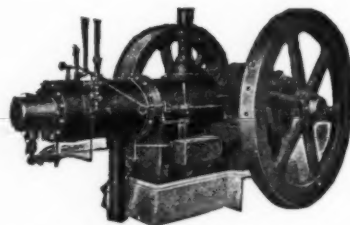
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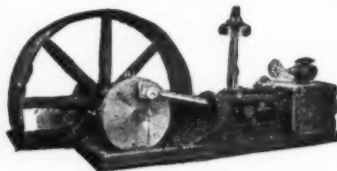
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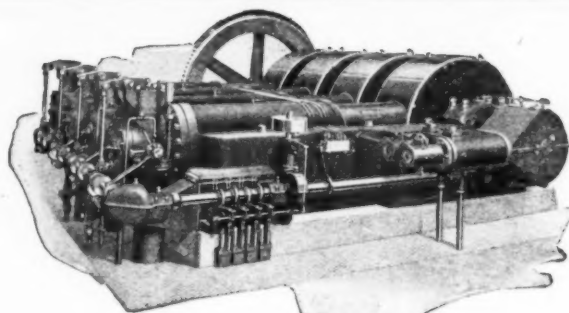
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Construction throughout provides all parts of unusual proportions to withstand hard continuous service without difficulty and minimum expense for repairs.

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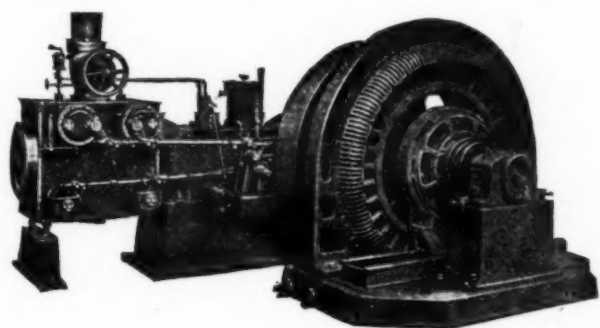
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WORCESTER, MASS.

Manufacture the Morgan Producer-Gas Machines and Dyblie Gas Reversing Valves, whose records of capacity, efficiency and labor-saving stand pre-eminent.

Many complete Gas plants on open hearth service are now being installed for leading steel works.



Where there's hard work to do,
Where the load fluctuates through wide ranges,
Where close regulation is required, and
Where operating economy is essential,
That's where you need a Ball Corliss Engine.

The modern power plant offers problems which embody all or part of these conditions. Ball Engines handle satisfactorily any or all of these requirements, and they do it with absolute reliability.

Ball Engines are built to "Stay on the job," and that is why they are installed in many of the most important plants throughout the country, plants that require the best and most dependable service.

Write for our Corliss Bulletin.

Ball Engine Company
Erie, Pa.

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your copy
of
Bulletin 1822



Bulletin 1822

Tells All About This New C-W Induction Motor

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CROCKER-WHEELER
ELECTRIC MOTORS

it embodies the best of design, workmanship, and materials. Good starting torque, high power-factor and efficient ventilation are among the features of these motors.

Ask for Bulletin 1822.

CROCKER-WHEELER CO.
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Telephone:
St. Paul, 1887

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A few years ago an inquisitive manager decided to find the cause of the seconds of his mill.

His investigation showed that the highest percentage of imperfections were made by those operatives whose eyesight was defective—and he accordingly took immediate steps to preserve the eyes of his workers. How? By giving them better light—both natural and artificial.

That his method was successful was proved by the decrease in the spoilage of his mill.

Whether you are troubled with excessive spoilage or other problems of production, it is highly probable that the underlying cause, or at least one of the contributing factors, of your difficulties is inadequate illumination.

Follow the example of the manager referred to above and do a little investigating—but don't do it all by yourself. Our Commercial Engineering Department is glad to furnish help and advice of this sort. This service places you under no obligation whatsoever. Write us today.

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165 Broadway, New York

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MAZDA LAMPS**

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A Western Electric polyphase motor
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These bulletins describe our motors and generators for direct and for alternating current.

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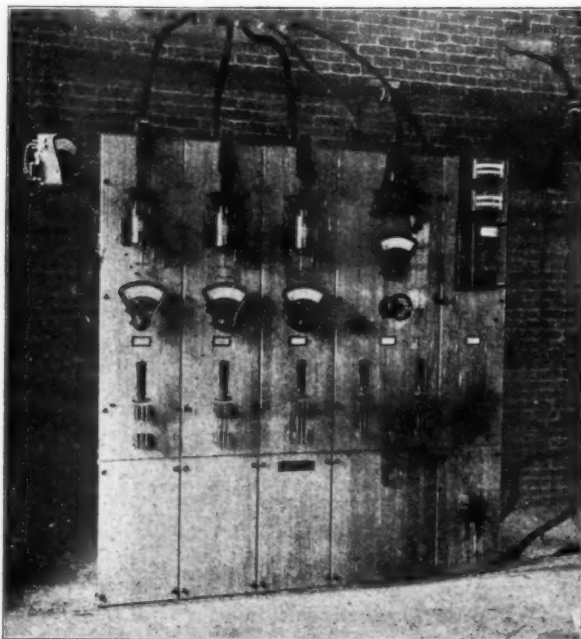
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EQUIPMENT FOR EVERY ELECTRICAL NEED
Member Society for Electrical Development. "Do it Electrically"



The above photograph shows three type "D" 2,000-Ampere AUTOMATIC RECLOSING CIRCUIT BREAKERS installed in three outgoing feeders. These breakers are mounted directly on the switchboard panel and make an excellent installation.

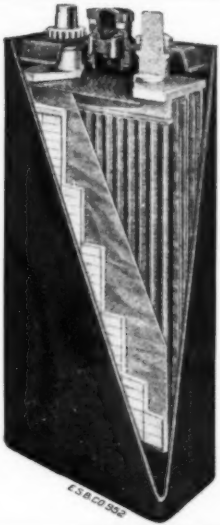
Get our bulletin No. 10. It tells why the AUTOMATIC RECLOSING CIRCUIT BREAKERS shown above were installed.



The Automatic Reclosing Circuit Breaker Co.
COLUMBUS, OHIO

SOUTHERN REPRESENTATIVES:

McClary-Jemison Machinery Co., Birmingham, Ala.
The Tennessee Mill & Mine Supply Co., Knoxville, Tenn.
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IN the many varied industries where the Industrial Truck and Tractor has replaced the old hand truck, it is cutting down trucking costs and building up efficiency. It will do the same in your business.

When you purchase an Industrial Truck insist that it be equipped with an "Ironclad-Exide" Battery, the battery which has "made good" in a big way in this service.

Ask our nearest sales office to explain the positive plate construction, patented cell cover, non-flooding vent plug and other exclusive features of the "Ironclad-Exide" Battery.

THE ELECTRIC STORAGE BATTERY CO.

New York Boston Rochester Minneapolis Philadelphia, Pa. Pittsburgh Chicago Denver Detroit
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ALUMINUM

Feeder Cable Bare and Insulated
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EXCEPTIONALLY LONG SPANS

ALUMINUM CO. OF AMERICA

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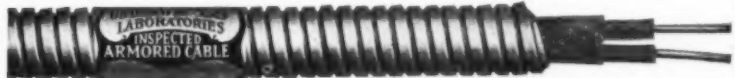
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Safety and Efficiency

The extensive use of electrical power in the modern factory emphasizes the importance of an efficient armored conductor.

Wiring of mechanical installations, particularly such as cranes and other moving machines, demands a conductor that is not only flexible, but also really armored.



REALFLEX answers to these specifications. In our large works we have used it for years and thus tested it under all conditions, finding it easy to install, durable and efficient.

For installations where dampness, acid fumes or similar conditions are to be met, Lead-covered REALFLEX is recommended.

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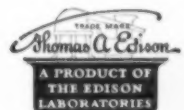
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Quality Considered

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How many
men to
truck this
load?

Figure your handling costs!

Then you will consider electric power.

Today ordinary labor is scarce and expensive. And gasoline for street trucks is way up in price.

Remember that electricity is low in price—the average cost of power for charging batteries is equivalent to "gas" at about 11 cents per gallon.

Storage battery vehicles will reduce your handling costs. Whether for road or factory use, there is a type that will speed up work, increase output and save you money.

In either case Edison Batteries will give utmost service.

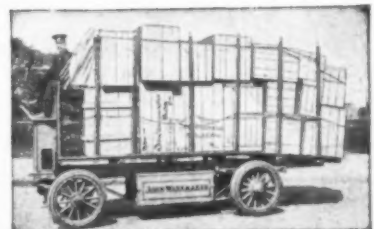
If you are interested in road vehicles, ask for
Bulletin 500M; if in factory and mill trucks, 600M.

EDISON STORAGE BATTERY CO.

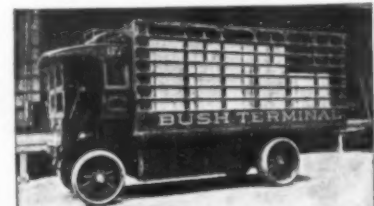
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ORANGE, N. J.



These powerful, speedy trucks help speed up work around the entire plant.



Know your transportation costs and you will use electric. Leading merchants and manufacturers have proved the economy of equipping large fleets with Edison Batteries.



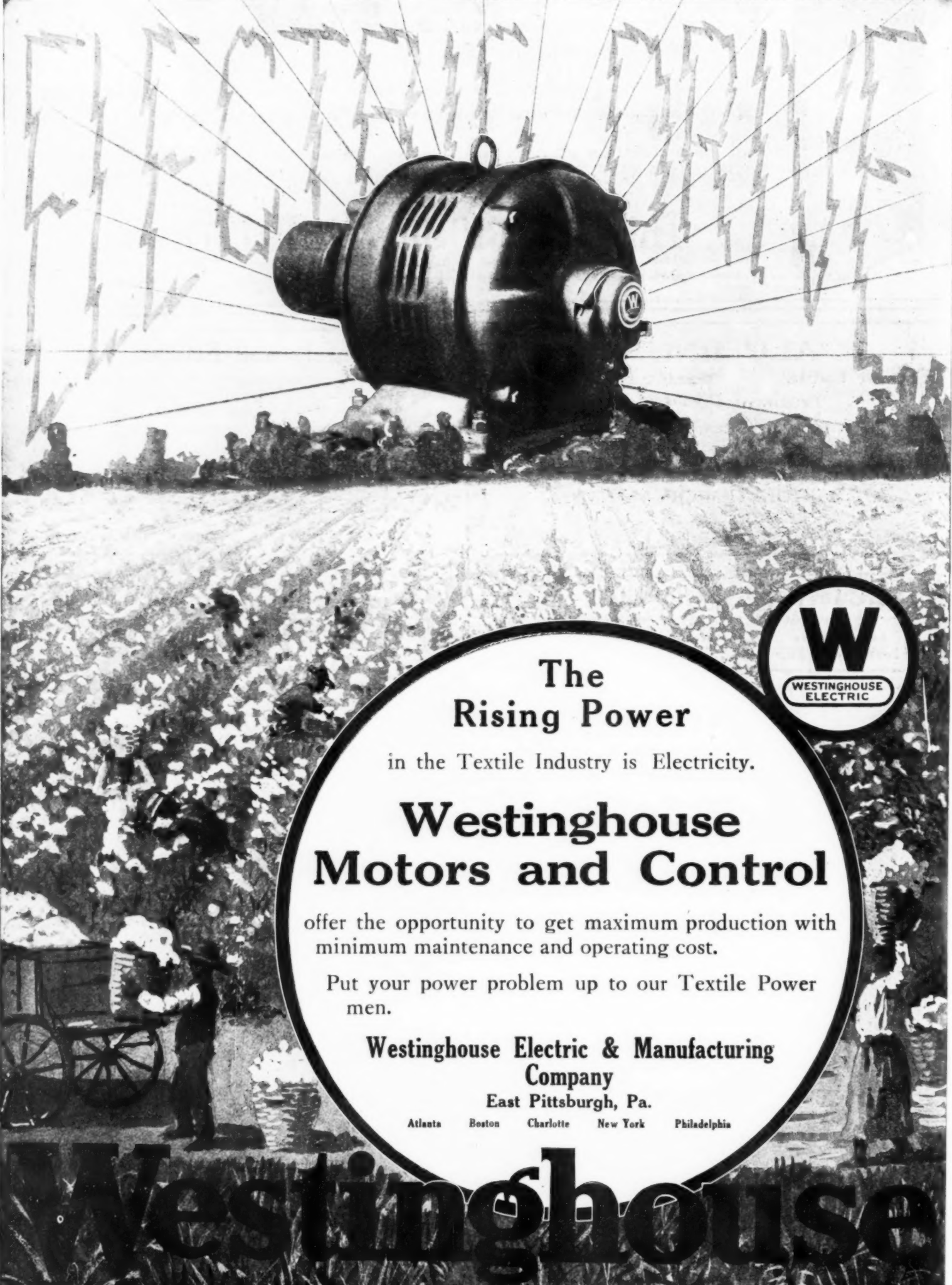
A type of truck adaptable to many uses.

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Rising Power**

in the Textile Industry is Electricity.

**Westinghouse
Motors and Control**


offer the opportunity to get maximum production with
minimum maintenance and operating cost.

Put your power problem up to our Textile Power
men.

**Westinghouse Electric & Manufacturing
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Quality That Speaks

Far more than we can say about Weston pre-eminence is revealed fully, unmistakably, emphatically, in every detail of

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Indicating Instruments

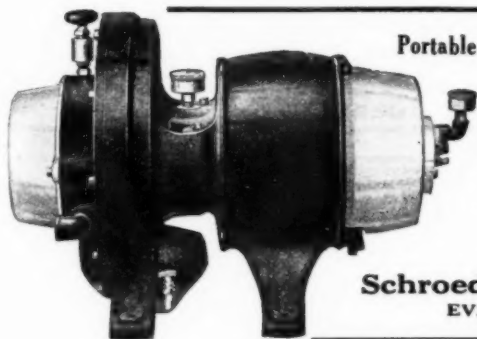
Their superiority is so marked, so easily demonstrated by test, that only one decision will be consistent after you have made comparisons.

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The Weston A. C. Round Pattern Switchboard Group includes Ammeters, Voltmeters, Wattmeters (Single and Polyphase), Power Factor Meters, Frequency Meters and Synchroscopes.

Besides their extreme accuracy and serviceability, these instruments are highly desirable for their uniformity of size and style, the openness of their scales and their legibility from any angle.



Portable Electric Light Plants

A combination of steam turbine and generator, direct connected. Made in $\frac{1}{2}$, 1 and $2\frac{1}{2}$ K. W. Will make ideal outfits for isolated places; adapted to steam yachts for small searchlights.

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MACHINE MOULDED PULLEYS
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Couplings, Pillow Blocks, Floor Stands, Collars, Etc.

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LININGS FOR STEEL CHIMNEYS AND FLUES

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FOUNDATIONS, STEEL WORK and BOILERS ERECTED. BRICK and CONCRETE WORK FURNISHED COMPLETE for the INSTALLATION of BOILERS, FURNACES, STILLs, SAW MILL REFUSE BURNERS, COTTON SEED STORAGE BINS, STORAGE TANKS and BINS, BUILDINGS and COMPLETE INDUSTRIAL PLANTS.

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ENGINEERS and CONTRACTORS

General Offices: PITTSBURGH, PA.

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"UNION" WATER TUBE BOILERS



We also make a complete line of Fire Tube Boilers

PLEASE NOTE THE FOLLOWING DISTINCTIVE FEATURES:

- 1st—Double horizontal drums, ample steam and water storage, large area steam liberating surface.
- 2nd—Patented purifier in each drum out of path of circulation and fire line.
- 3rd—Patented corrugated flange connection from drums to headers relieves boiler of internal expansion strains and provides ample area for unrestricted circulation.
- 4th—Handhold plates of practical and special design.
- 5th—Greater tube inclination and proper spacing of same facilitates cleaning and promotes combustion and high efficiency.

These and many other features brought out in our new catalogue gladly furnished on application.

UNION IRON WORKS, ERIE, PA.

THE BABCOCK & WILCOX COMPANY

85 Liberty Street, NEW YORK

BABCOCK & WILCOX—STIRLING—RUST

WATER TUBE STEAM BOILERS

STEAM SUPERHEATERS

Works:

MECHANICAL STOKERS

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RESULTS

Here is Proof of
the Efficiency of

THOMAS Grate Bars

THE PELL CITY MANUFACTURING COMPANY
Pell City, Ala.

October 6, 1916

Mr. Ed. L. Thomas, President,
Thomas Grate Bar Company,
Birmingham, Ala.

Dear Mr. Thomas:

Your favor dated October 3d received. The writer was very skeptical when these bars were installed, about one year ago, regarding their value to us as compared with ordinary grate bars. Our skepticism has vanished. A year's use of these bars under all boilers in our main steam plant (5 Heine 250 H. P. boilers) has shown the following results (with the same men in the boiler-room):

12 1/4% increase steaming power for our boilers, due to even fires and better combustion.

The absolute elimination of hoe, rake and slash bars.

No cleaning of fires through fire doors.

Full 10% fuel economy.

33 1/4% decrease labor for firemen.

The above results have eliminated running short of steam and all shut-down from this cause.

Regarding the wear and tear, also apparent life of these grate bars, would say that at this time, after twelve months' use, the bars appear to be in as good condition as when installed. A year's trial has convinced us that we cannot afford to use ordinary grate bars. We have recently equipped our gin plant and pumping station with the Thomas shaking, dumping grate bars.

We are not merely satisfied with the Thomas grate bars, but are enthusiastic users.

With kind personal regards, I remain,

Yours very truly,

(Signed) T. H. RENNIE, President,
The Pell City Mfg. Company.

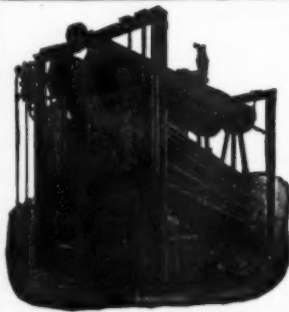
T.H.R.—R.

This is only one of the many letters we have indicating that you, Mr. Steam User, are paying the coal man for Thomas bars in excess coal bills and the only way to stop it is to buy the bars, install them in your plant, when they will soon save their cost, then thereafter continue saving, paying for the privilege of staying in your plant and serving you. Will you deny them this privilege?



Write today for illustrated
printed matter.

Thomas Grate Bar Co.
Birmingham, Ala.



"Sectional Water Tube Boiler
Specialists for Forty-
Eight Years"

ROOT Water Tube Boilers
Spiral Riveted Pipe

ABENDROTH & ROOT
MANUFACTURING CO.

Works—Newburgh, N. Y.

New York Office—45 Broadway

STOCK HORIZONTAL BOILERS

Constructed in accordance with the rules adopted by the American Society of Mechanical Engineers.

Better boilers cannot be made. They are offered subject to prior sale.

Write for Bulletin SB-M.

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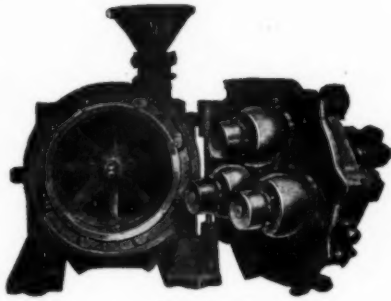
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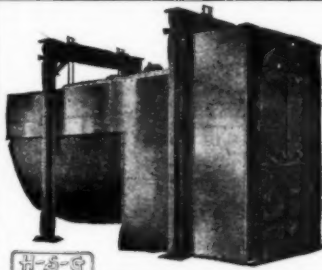
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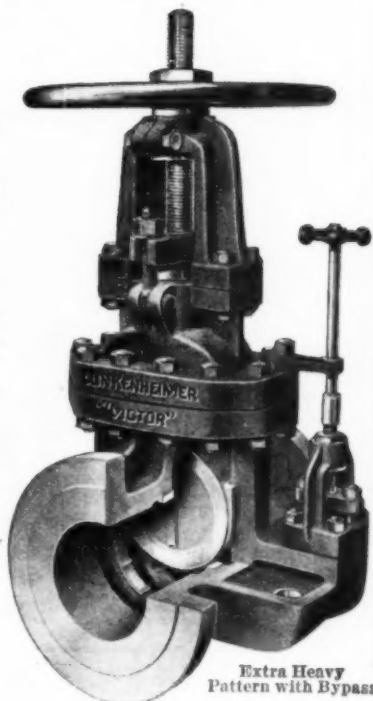
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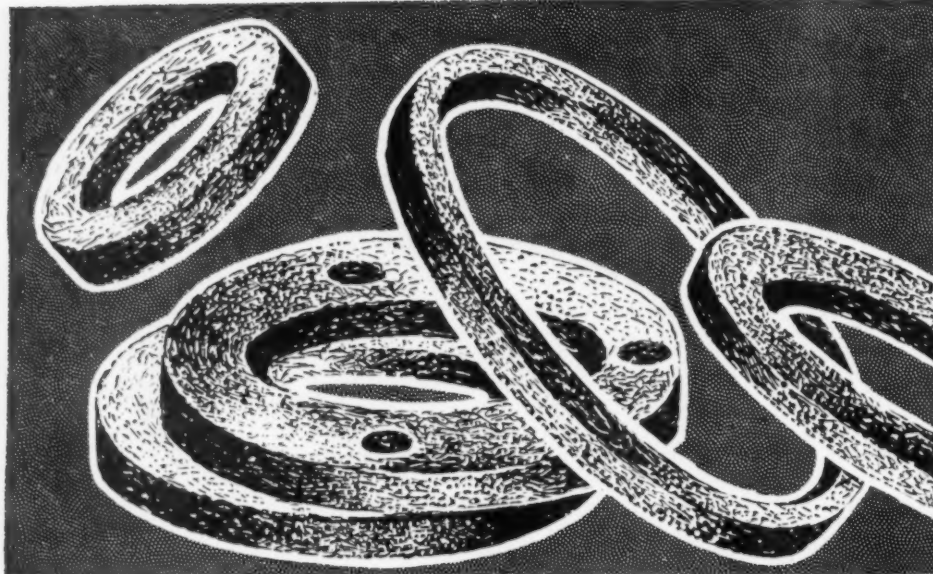
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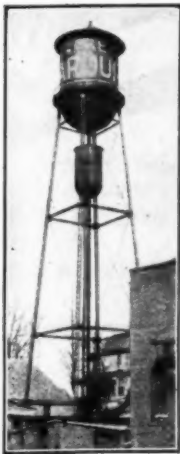
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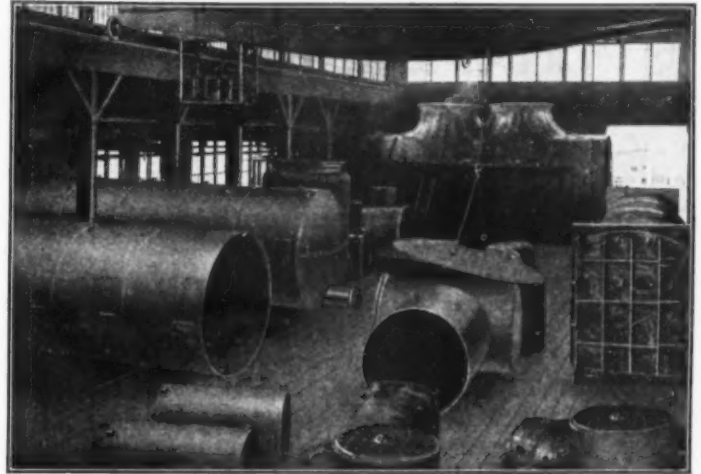
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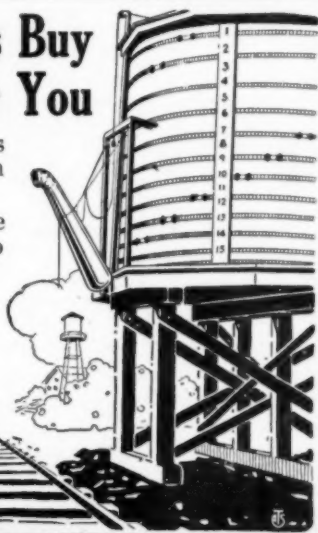
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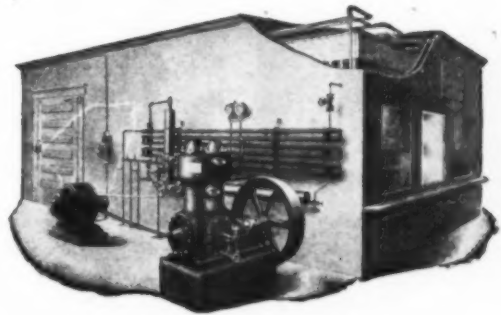
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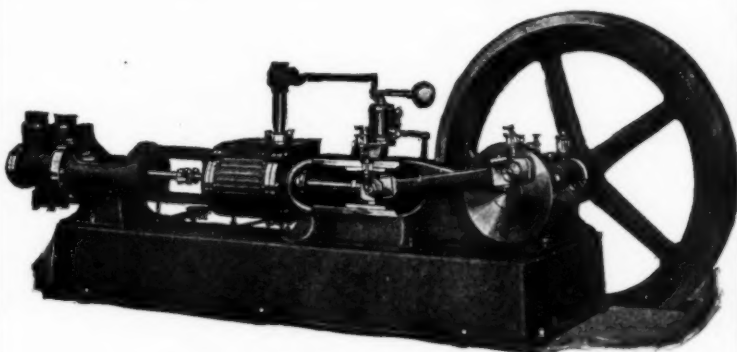
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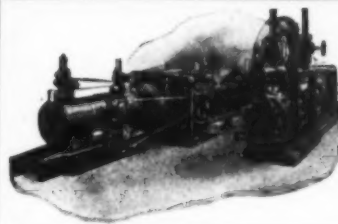
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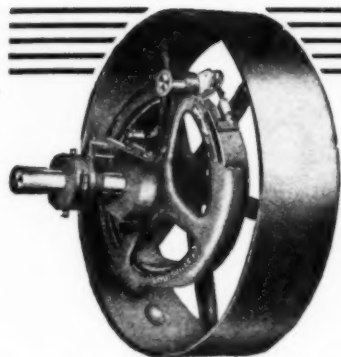
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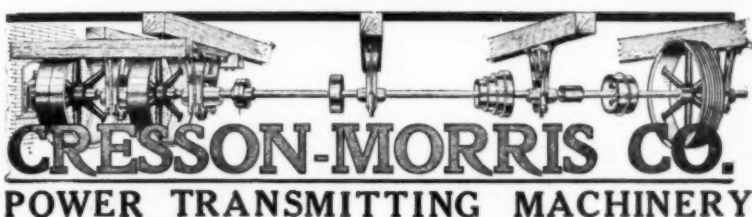
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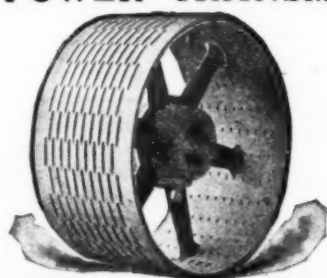
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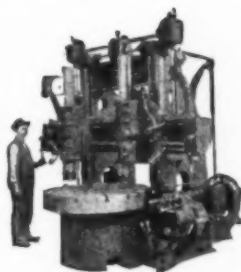


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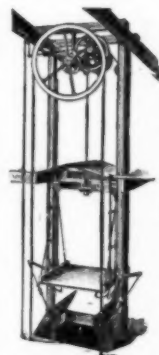
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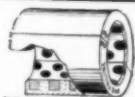


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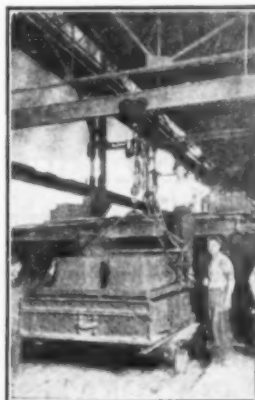
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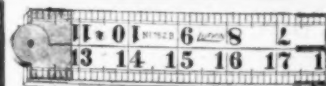


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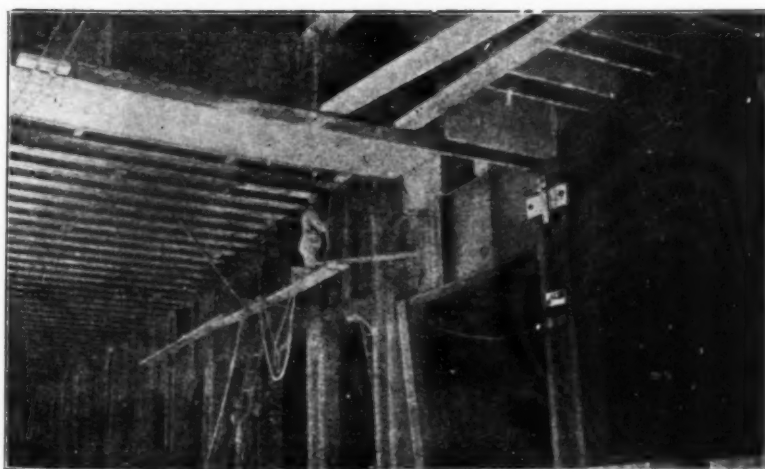
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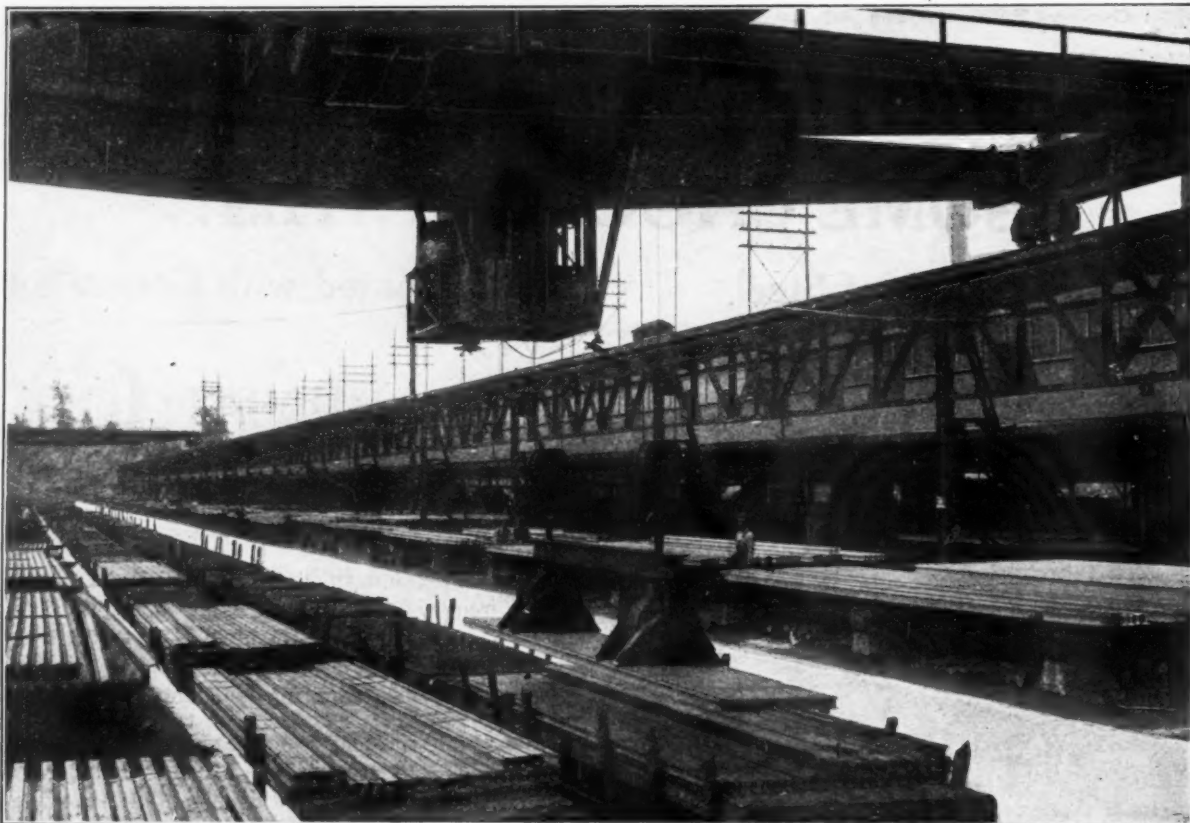
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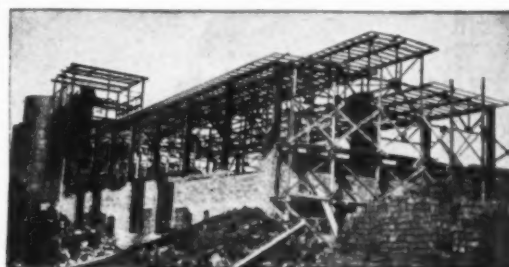


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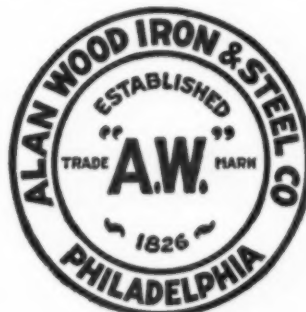
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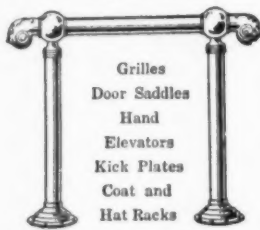
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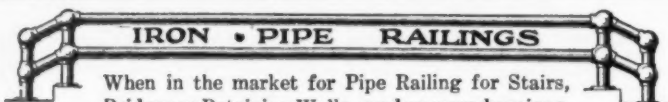
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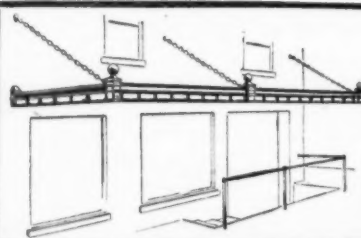
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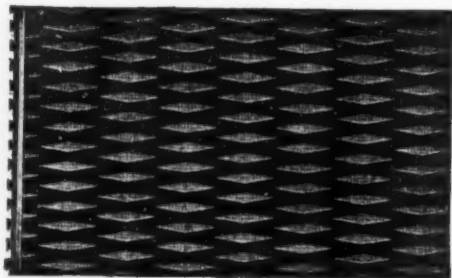


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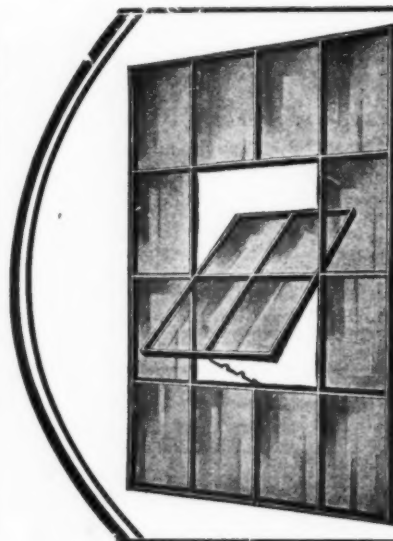
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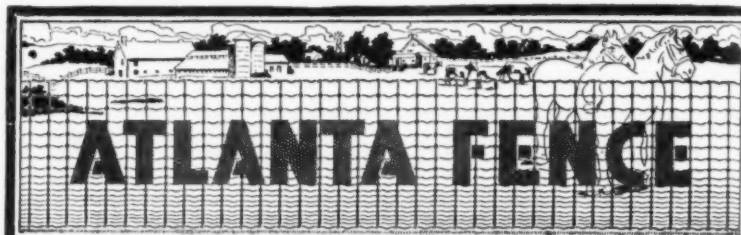
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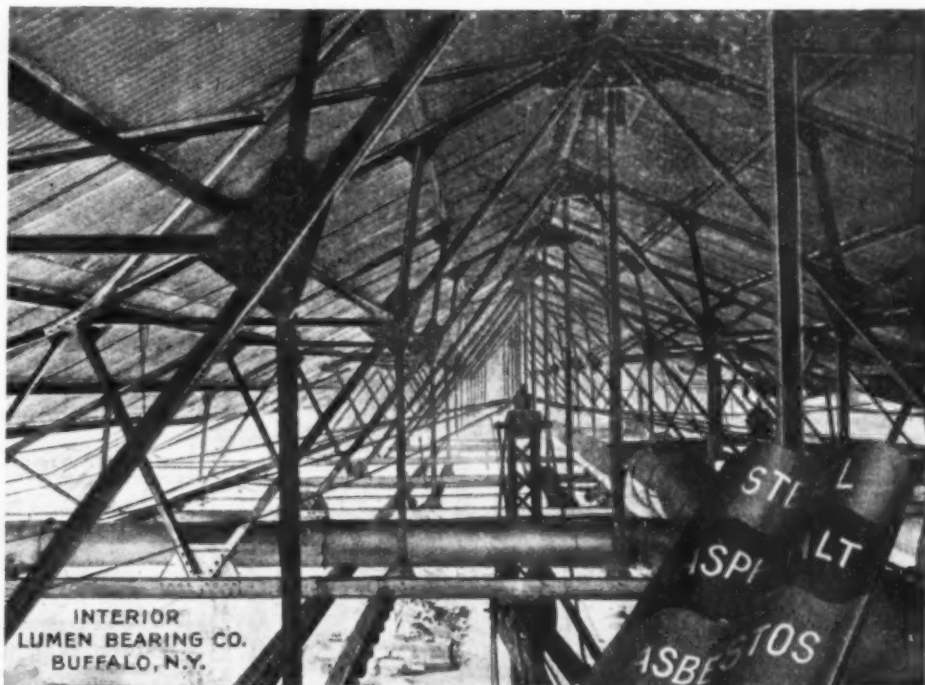
develops the **lowest annual cost** of any material that can be used for roofs and sidings, because:

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Month after month we have presented and pictured representative M-B Method installations in this publication. There is nothing new in the hardener story, but there is a great deal that is new in M-B Method for the architect, engineer or contractor who may be inclined to judge this Method by what he may know of others. For such a one we have eye-opening facts. To bring them, write your name and address on the margin, tear out and mail. (M. R., Oct. 18.)

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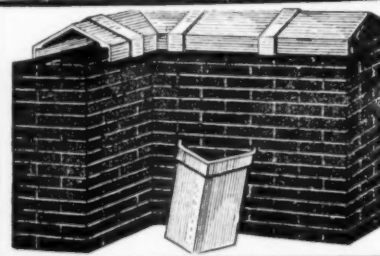
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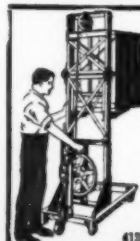
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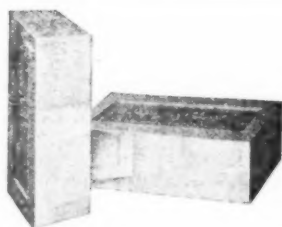
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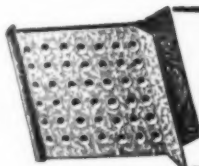
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Atlanta Terra Cotta Store Fronts

These Terra Cotta Store Fronts were all furnished during the past twelve months, and our booklet, "Atlanta Terra Cotta Store Fronts and Stock Material," supplied the inspiration for a great many of them.

| | |
|---------------------------------------|--------------------|
| Ford Building..... | Nashville, Tenn. |
| Marr & Holman, Architects. | |
| Hutchens Building..... | Huntsville, Ala. |
| Edgar L. Love, Architect. | |
| McWilliams' Building..... | Muskogee, Okla. |
| Jos. A. Dickman, Architect. | |
| White Building..... | Augusta, Ga. |
| G. Lloyd Preacher, Architect. | |
| Bart Store..... | Knoxville, Tenn. |
| A. B. Baumann, Architect. | |
| Holley Hardware Store..... | Aiken, S. C. |
| G. Lloyd Preacher, Architect. | |
| Sylvester Building..... | Augusta, Ga. |
| G. Lloyd Preacher, Architect. | |
| Film Exchange Building..... | Atlanta, Ga. |
| J. R. MacEachron, Architect. | |
| Schneider Store..... | Augusta, Ga. |
| G. Lloyd Preacher, Architect. | |
| Wood Store..... | Gaffney, S. C. |
| L. D. Proffitt, Architect. | |
| Paddock Jewelry Store..... | Athens, Ga. |
| W. C. Powell, Architect. | |
| Crook Record Store..... | Paris, Tex. |
| Lang & Witchell, Architects. | |
| Harrison & Black Store..... | Tampa, Fla. |
| F. J. James, Architect. | |
| Maddox Store..... | Atlanta, Ga. |
| A. Ten Eyck Brown, Architect. | |
| Upchurch Store..... | Thomasville, Ga. |
| C. Frank Gailher, Architect. | |
| Massell Store Building..... | Atlanta, Ga. |
| Ludowick J. Hill, Architect. | |
| Jackson Store..... | Atlanta, Ga. |
| A. Ten Eyck Brown, Architect. | |
| Film Exchange Building..... | Atlanta, Ga. |
| J. R. MacEachron, Architect. | |
| Goldberg Store..... | Augusta, Ga. |
| G. Lloyd Preacher, Architect. | |
| Kress Building..... | Mobile, Ala. |
| Seymour Burrell, Architect. | |
| Dosser Building..... | Bristol, Tenn. |
| Thos. S. Brown, Architect. | |
| Myers Store..... | Greenville, S. C. |
| F. H. & J. D. Cunningham, Architects. | |
| Wachtel Store..... | Macon, Ga. |
| Happ & Shelverton, Architects. | |
| Dean Store..... | Athens, Ga. |
| Atlanta Terra Cotta Stock Front. | |
| Harvey Building..... | Kinston, N. C. |
| W. G. Rogers, Architect. | |
| Cabero Store..... | Hawkinsville, Ga. |
| Walker & Chase, Architects. | |
| Henry & Pritchett Store..... | Hawkinsville, Ga. |
| Atlanta Terra Cotta Stock Front. | |
| Harrison County Sales Co..... | Gulfport, Miss. |
| H. D. Shaw, Architect. | |
| Alexander Store..... | Atlanta, Ga. |
| J. R. MacEachron, Architect. | |
| Welchbaum Store..... | Dublin, Ga. |
| Jones & Phillips Store..... | Greenville, Tex. |
| Wm. R. Ragsdale, Architect. | |
| Clayton Store..... | Greenville, Tex. |
| Wm. R. Ragsdale, Architect. | |
| Wood Store..... | Gaffney, S. C. |
| W. G. Rogers, Architect. | |
| Felsenthal Store..... | Brownsville, Tenn. |
| Mahan & Broadwell, Architects. | |

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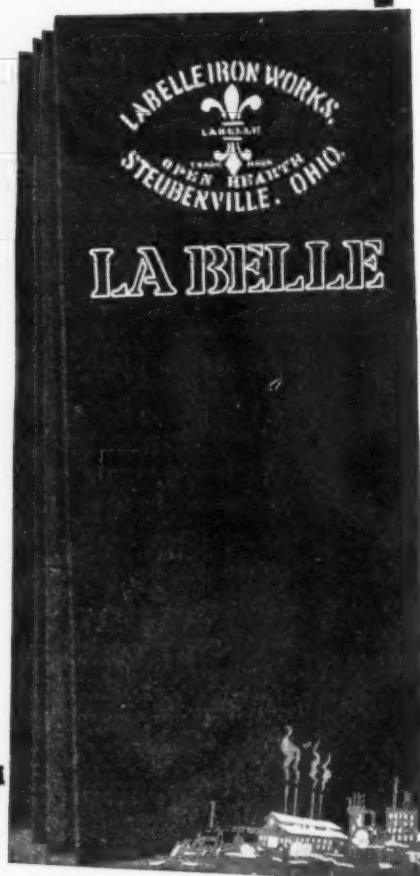
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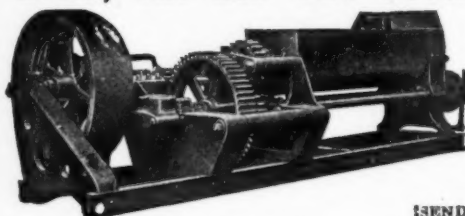
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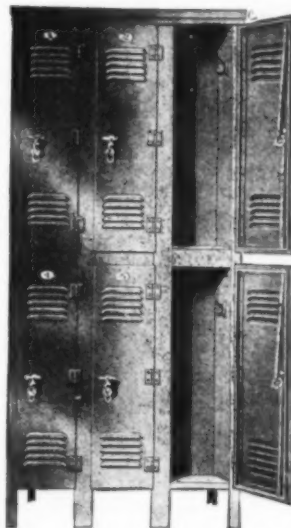
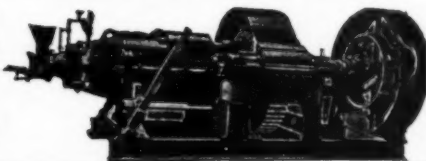
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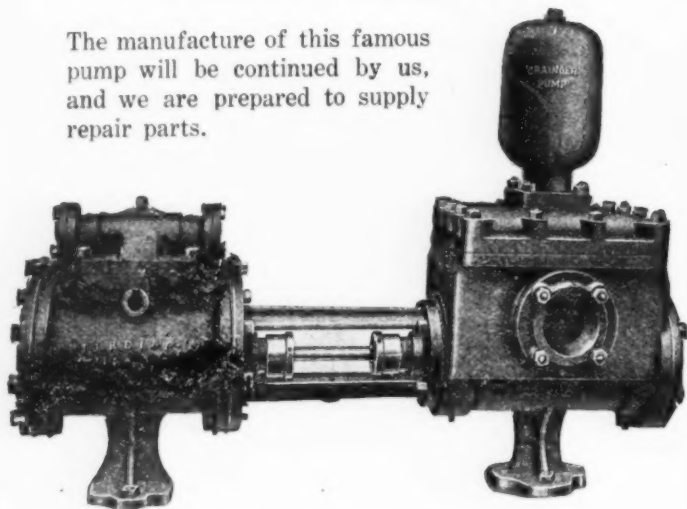
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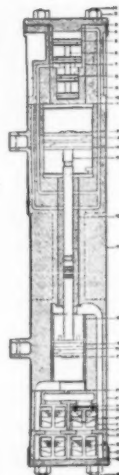
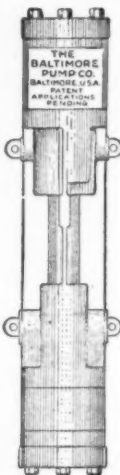
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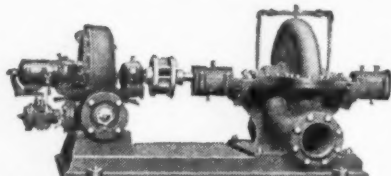
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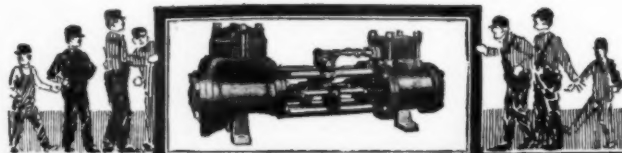
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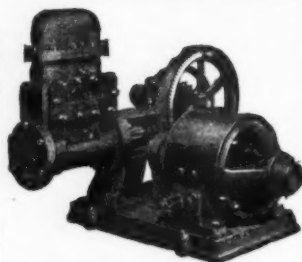


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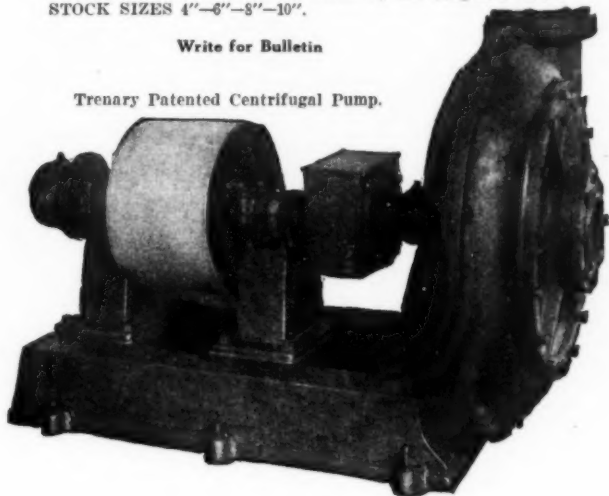
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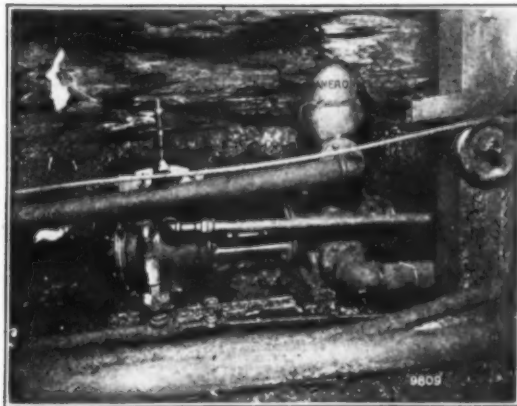
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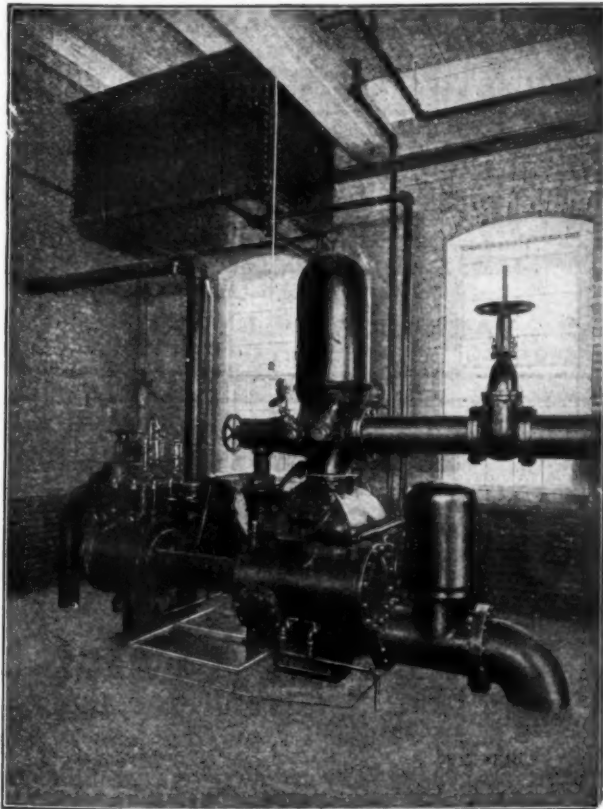
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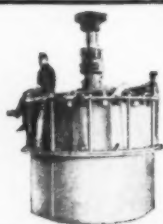
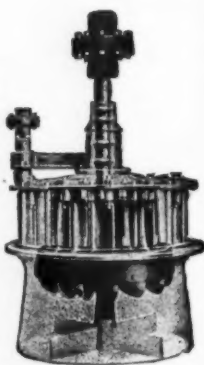
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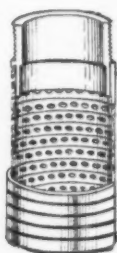
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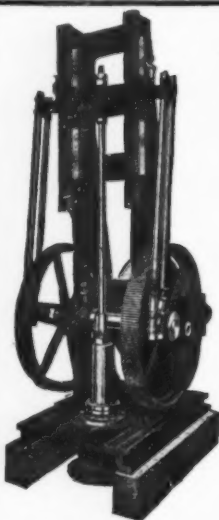
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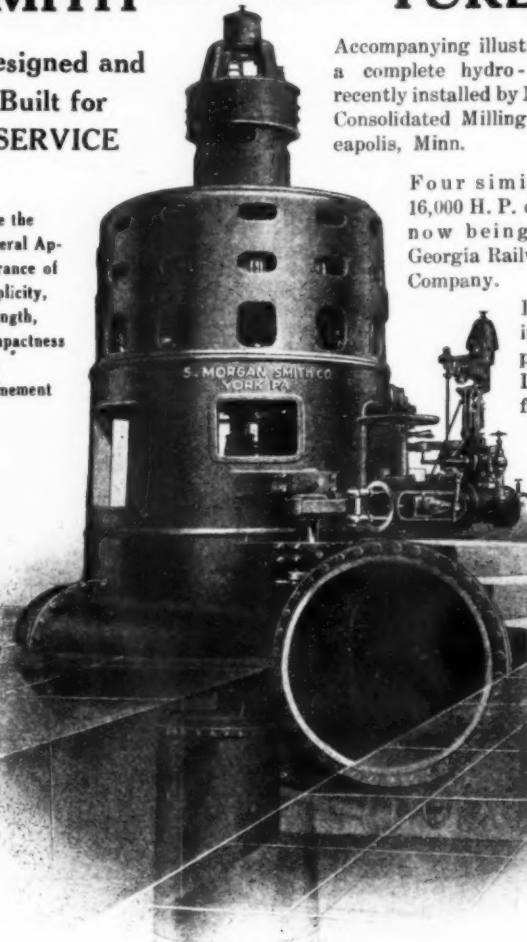
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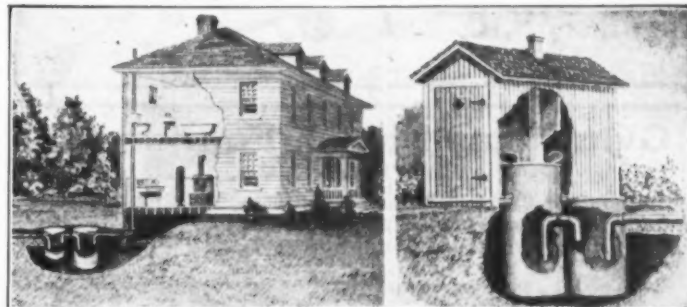
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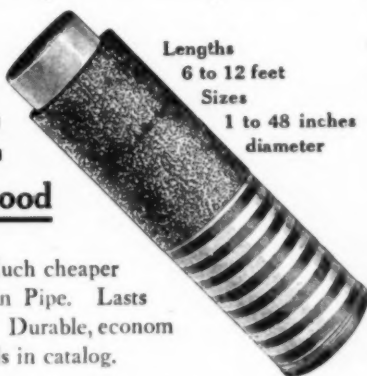
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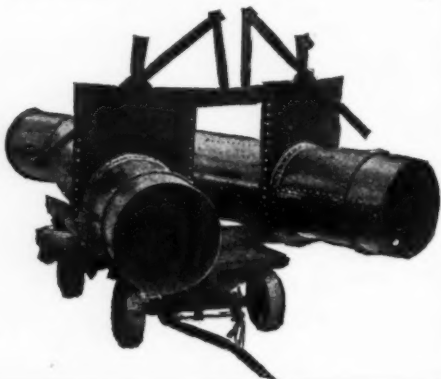
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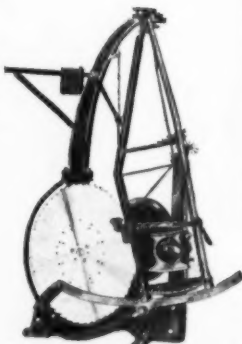
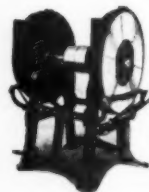
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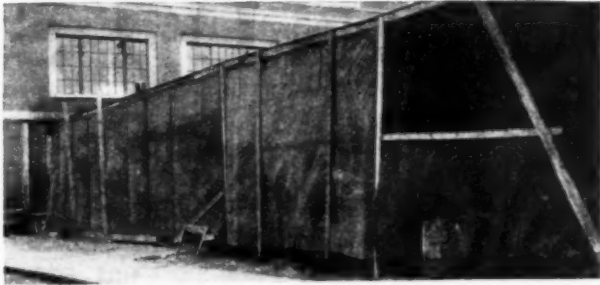
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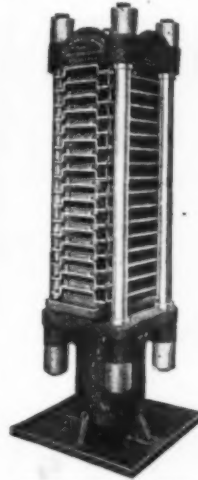
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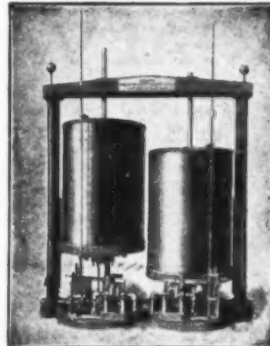
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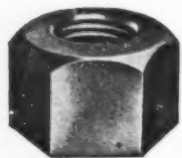
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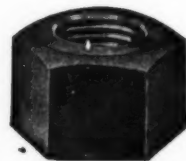
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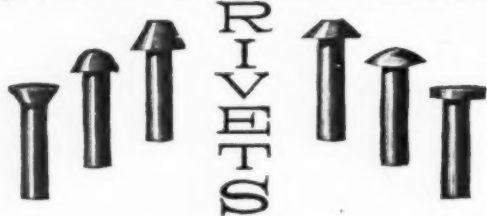
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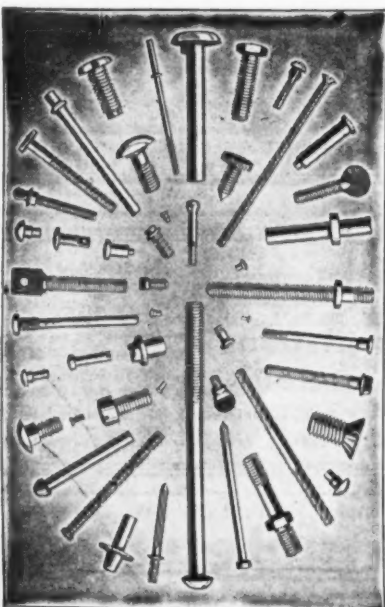
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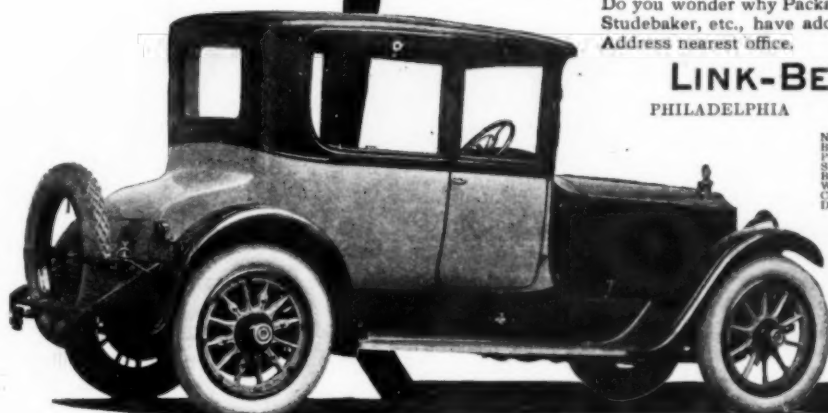
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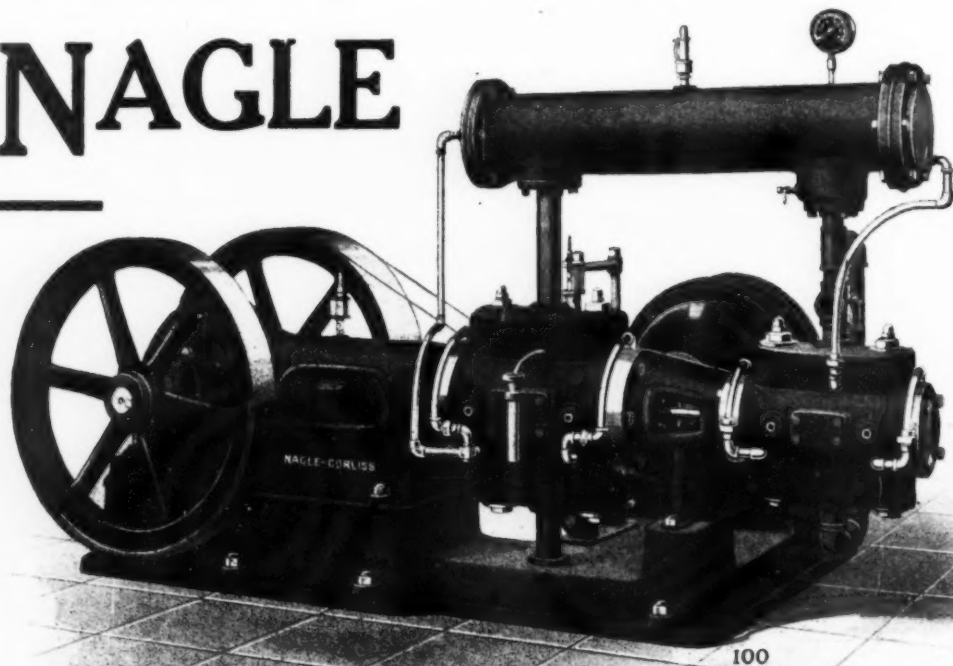
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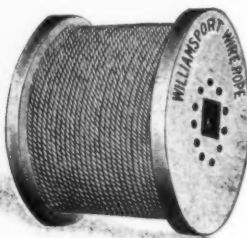
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Trade-Name Registered in the U. S. Patent Office

VOL. LXXII, No. 17-1
WEEKLY.

BALTIMORE, OCTOBER 25, 1917.

\$4.00 A YEAR.
{ SINGLE COPIES, 15 CENTS.

PUBLISHED EVERY THURSDAY BY THE

MANUFACTURERS RECORD PUBLISHING CO.

RICHARD H. EDMONDS, Pres. VICTOR H. POWER, Treas.
FRANK GOULD, Vice-Pres. I. S. FIELD, Sec'y.

RICHARD H. EDMONDS, Editor and General Manager

BRANCH OFFICES:

NEW YORK, 52 Broadway CHICAGO, 919 Fisher Bldg.
BOSTON, 733 Old South Bldg. ST. LOUIS, 608 Century Building

Subscription \$4 a year (payable in advance) to United States, Mexico, Cuba, Porto Rico, Hawaii and the Philippines. To Foreign Countries (including Canada) in the Postal Union, \$6.50 a year.

[Entered at the Baltimore Postoffice as second-class matter.]

In order to avoid delays, all correspondence pertaining to news or advertising matters should be addressed directly to the Manufacturers Record, Baltimore, Md., and not to individual editors, officers, employees or any branch office.

HAVE YOU GONE YOUR LIMIT?

Germany and Hell—the terms are synonymous — await with eager interest *your* action on Liberty Loan Bonds, because the nation is made up of individual *yous*, and every *you* must do your part. If the nation, through *your* failure to do *your* share, should fail to place this bond issue, there would be joy throughout Germany and Hell. But if the nation shall, through the action of *you*, and *you*, and every *you*, have a great over-subscription, there will be untold sorrow in Germany and Hell.

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Are you urging your neighbors, your employes, your customers to buy Liberty Bonds? Are you doing as one grocer is reported to have done, refusing to sell to any customer who will not buy Liberty Bonds?

This is the fateful hour of all civilization—the fateful hour of human history.

The honor of your mother, your wife, your daughter, your sweetheart, and all that you hold dear on earth, may depend upon your action now. Buy now. Make your name count for something. Buy to the limit of your credit, and then keep on saving in order to pay.

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The soldier offers his life, the supreme sacrifice a man can make.

Measuring your subscription by his sacrifice, are you satisfied with what you have done?

The Reason Why This Is Our War.

WE are too much inclined to pat ourselves on the back and say that we are in this war to save democracy, to save England and France and Belgium and Russia and Italy as well as ourselves. We are prone to congratulate ourselves upon our unselfishness and our readiness to risk the lives of our soldiers to make civilization safe, or to make democracy safe.

As a matter of fact, we are in this war purely and wholly from the one selfish reason of trying to save ourselves and the women of this land from complete destruction.

We did not enter the war to save other people, and to that extent we are almost particeps criminis with the murderers and outragers who for three years before we entered the war had been overrunning civilization.

We stood by like cowards who saw women and children being attacked by brutes, but we were too anxious to save ourselves from possible injury to rush to the side of those who were fighting for these women, and who in doing so were standing between us and the brutes.

We saw Belgium overrun and horrors enacted such as the world had never known, but we raised no voice in protest.

We saw France—beautiful France—in the throes of the death struggle, but we raised no hand to save her.

We saw millions dying of starvation and suffering, but gave a beggarly nothing almost even out of the vast wealth we had accumulated to help the dying and starving, the wounded and all whose cry went up in agony to heaven.

We saw millions of Christians butchered in cold blood in Armenia, but we shut our ears to the sound of their voices.

We saw helpless babies butchered; we saw children driven off into the snow and ice, dying by the wayside, their bones bleaching along hundreds of miles of awful roads that led through Poland and Russia and Serbia and Armenia; but we drew back and hid ourselves even from a sight of these horrors.

We did not want to let a glimpse of this inferno—by the side of which Dante's was Heaven itself—break in upon our comfort and ease and our money-making activities.

We saw England—the mother country of our language, the country whose flag has for a century meant law and order and civilization wherever it floated, the country of freedom greater than our own freedom, the country which gave birth to Milton and Bunyan and Shakespeare and thousands of others whose names have been writ deep into human history—struggle to rally its forces and create an army to save itself from destruction and to meet its responsibilities to Belgium and France.

We saw the English fleet sweep from the ocean German shipping, and we saw that we were hiding behind the English fleet, skulking in the rear, knowing that so long as that fleet held the ocean our

cities along the coast were free from the ravages of Germany's navy; and we knew full well that there was no other salvation for us but to hide behind this fleet, and, cowards like, we hid.

We contributed little or nothing out of our boundless wealth to help the starving, while England and France poured out their hundreds of millions, even amid their vast war activities, to rescue the living and feed the starving in Belgium and France. As a nation we gave no word of comfort or sympathy to these nations who in fighting their battle were fighting for our life.

And yet we sometimes dare to stand in the presence of Almighty God and talk as though we had been moved by a spirit of world patriotism and world sympathy and a love of civilization to enter the war. One may well sometimes wonder that the Almighty did not smite us with destruction as we gathered to ourselves the vast wealth that was being created, and which had been created prior to the war, and gave none of it, or almost none of it, back into His service to the starving ones of Europe. Surely if ever a nation through smug satisfaction with itself, through a desire to shut its eyes to the realities which face it and shirk its responsibilities, deserved the condemnation of Almighty God, this was the nation.

Talk about world-encircling patriotism! We should be ashamed of ourselves, and frankly admit that this country went into this war for the purely selfish reason of trying to save itself from destruction. We did not have the manhood to enter it in the interest of Christianity and civilization until we saw that we ourselves were doomed unless we joined the Allies. Not until war was being made upon us vigorously and aggressively, and not even then did we go into it until we got an intimation that possibly a defeat of France and England would mean a transference of their fleets to Germany as a part of its indemnity, for that has been one of the things which Germany has had in mind, in addition to Germany's hope, in addition to the fleets, to claim Canada's indemnity.

Germany thought that it had the world beneath its feet; that it could set its own terms, and that by destroying the power of England and France it could plant its feet upon this continent and do to the United States exactly what it has done to the overrun parts of France and Belgium.

We shut our eyes to these facts, though from the day Belgium was invaded we should have been able to see them, for a study of Germany's military and philosophical teachings for the last quarter of a century should have given us a glimpse into the determination which had been ruling in Germany for more than a third of a century to Germanize the world.

And Germany came desperately near succeeding.

The Battle of the Marne was the fateful hour in human civilization. Had the French failed then, all France would have been doomed, England would have been conquered, and then straight for this

country Germany would have carried out plans for its invasion which it had already made.

We stood by and saw France with the most tremendous heroic work stem the onrush of barbarism, but we made no move to help her.

At the Yser we saw the soldiers of England and her colonies, literally mowed down by machine guns, with which they were not equipped, stay the onrush of the Huns to the coast of France, and thus to England. But we lifted no hand in their defense.

We saw Belgium—heroic, superb—offer up its life rather than sell its honor, and we uttered no word of protest against the rapists, individual and national. We gave no help to that little nation in the hour when it looked as though all civilization of all the world hung in the balance. Belgium held the barbarians in check until England and France could gather enough soldiers to meet the men who were the product of a military machine which for years and decades had been building for the purpose of crushing the world and Germanizing it.

And America raised no national voice in behalf of Belgium.

And yet some people talk as though we had entered this war to save the Allies from barbarism! Let us be decently honest with ourselves. Duty and self-preservation demanded that we should have entered the war in its early stages and fought by the side of those whose fight was saving us from ruin; but lack of foresight, lack of world patriotism, lack of humanity kept us quiet, and we went on living in peace, selling foodstuffs and munitions to the Allies at exorbitant prices. Their lifeblood was being poured out to save us, but we were pocketing with eager, greedy hands the profit on what we were selling them.

Here and there were heroic souls who could not be tied down by this false neutrality. They went to Europe and offered their lives to France, to Belgium and to England. Many of them died, and to their everlasting honor and to that of those who gave them birth their names should be forever enrolled upon the pages of history as the men who loved liberty and loved humanity, not simply for themselves, but for others, more than they loved life.

We are now in this war to save our country from being overrun by barbarism.

We are trying to save the women of this land from what the women of France and Belgium have endured.

We are trying save the infant from being dangled on the bayonet, as was done in Belgium.

We are trying to save the wealth of the nation. But what is its wealth of money worth by the side of its manhood and its womanhood and what it has stood for through its history of human liberty, civil and religious?

Let us put away from our thought even the shadow of an idea that this is not our war; that this war is not specifically and directly and selfishly for our own salvation from eternal damnation. It is for this we are fighting.

It would have been glorious for this country to have stood at the beginning of the war alongside of the countries who now are its allies, battling on high and holy ground for civilization and democracy. But we did not do it. Let us admit the fact, and, as we shamefacedly recognize our national shortcoming in this, let us now atone to the utmost extent of our power for our failure.

And now as we try to save ourselves—for up to this hour the Allies alone have saved us—let us throw into the contest the utmost power of men

and money, the utmost force of the nation, morally, physically, spiritually and financially, and let us not be blatant about what we are doing or what we can do until we have surpassed the sacrifices of France and Belgium and England and Italy and Canada and Australia and Serbia and Russia. They saved us. Not until then shall we measure up to our responsibility.

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HAVE YOU MEASURED THE DISTANCE BETWEEN THE SOLDIERS' SACRIFICE AND YOURS?

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"What Have You Given?"

Have you given your life? No.

Have you given up every comfort of home? No.

Are you enduring the hardships and the sufferings of army life? No.

"But," you say, "I have given my subscription to Liberty Bonds."

"Given?" Oh, no. You may have subscribed for some Liberty Bonds, but in doing so you didn't "give" anything; you merely made the safest investment on earth.

Liberty Bonds are a first mortgage
On every acre of land in this country,
On every ton of coal and ore,

On every gallon of oil beneath the surface,

On every tree that stands in the forests.

They are a first mortgage
On the rivers and on the valleys and the mountains of the land.

They are a first mortgage
On every building in America and on every mile of railroad.

But more, they are a first mortgage
On all the individual and collective mental powers of the nation,

On all the energies of its people,
On all their science and arts.

For the nation has the legal and moral right to do what it has done, in pledging everything in the country for the payment of these bonds.

But even with such security for your investment, have you really matched your sacrifice to subscribe alongside of the sacrifice of the soldiers?

GERMANY'S INFAMOUS COURSE TOWARD THIS COUNTRY.

CONGRESS proclaimed a state of war with Germany last spring; as a matter of fact, Germany has been at war with the United States for nearly three years—ever since, under the arch-conspirator, Bernstorff, the German espionage and propaganda system became organized for active work. Unscrupulous, shameless, this sinister figure went about his task while accepting the official hospitality of the Government and the social attentions of its citizens.

So cleverly did he cover up his part in the promotion of force and murder on this soil that when he was given his passports there was widespread sympathy with his awkward position.

That he was a low-browed, conscienceless murderer at heart no one suspected, and yet the revelations made by Secretary Lansing can leave no doubt as to his true character. He may have been acting under orders, but he was not a part of the military establishment and might have avoided personal dishonor by resigning. He did not resign. He clung to his post until he was packed off, and his embassy was the storm-center of conspiracy and crime.

Primarily, Germany was responsible; actually, Germany was making war—in the dark—on a friendly power. Not in this generation, nor in the next—or the next—will that Empire survive the odium that will attach to its name and to its fame among the civilized peoples of the world.—The Tampa Tribune.

The Tribune is mistaken. Bernstorff did not "cover" up his tracks. His work in this country was to a large extent known and understood from the day he issued an official warning, proclaiming in advance that the people on the Lusitania would be murdered. That he was an "unscrupulous," "shameless," conscienceless murderer should have been known to every official in Washington, for he helped to bring about, openly known in Washington, the murder of those on the Lusitania.

No intelligent man could watch what was then going on and not understand Bernstorff's character and work, and understand that the whole German propaganda was one of cold-blooded, highway murder, of stabbing the nation in the back, and doing all in its power to make war upon this country, and to open a campaign for German spies and pro-Germans which is now being carried out. To suggest that no one in Washington suspected this situation would be to charge Secretary Lansing and the whole Administration with a degree of stupidity which, if they had possessed, would have kept them forever from rising from the lowest depths of the stupidest clodhopper. It is much better to admit that the nation was stupid and would not see what Washington saw, and that, therefore, the Administration could not move because its hands were tied. Otherwise we would charge the Administration and all the people surrounding it with a lack of intelligence such as never existed at the head of any great Government.

"LAMPLIGHTERS OF THE WORLD" FOR LIBERTY.

HARRY LAUDER, the Scotch singer and comedian, sang the other night to the troops at Camp Upton, N. Y., and a report from there says it could be seen, in spite of his merry smile, that his heart grieved for the loss of his only son, who was killed in battle in France.

"Someone asked me to sing, 'There's a Wee Hoos Among the Heather,'" he announced toward the end of his program, the smile dropping as he spoke the words. "Eh, don' know. The last time I sung that song was in front of Arras, in France, before 15,000 Scottish troops spread about like a great horseshoe. The last time I sung it and ever since then it has been a song to me—it's been a hymn, it has."

"It's a hymn to me now, boys," he went on. "I want ye to learn it wit' me, so ye can sing it when ye get there, too. It'll do ye a lot of good over there, you'll find, mah friends."

Once, twice, the fun-maker with the broken heart sang it, and then slowly, bashfully and hesitatingly the 2000 took it up.

Harry compared the soldiers of America to the lamplighter who, passing on in his work, leaves behind the brilliant street. "You boys are the lamplighters of the world. You're going to light up civilization as never before. And it will be very beautiful that your children will be able to say, 'My dad lit that light!'"

The Nation Must Turn Foreign Traffic Through Southern Ports to Lessen Congestion in the East.

NEARLY three-fifths of the coast line of the United States is in the South. It is indented by many harbors, at most of which there are towns or cities of more or less importance, all the way from Baltimore to the Rio Grande. At many of these ports extensive wharfage and warehouse facilities have been provided, adequate to meet the and in many cases increased facilities have brought increased business.

The creation of freight-handling facilities at some ports, like the building of a belt railroad, has created a larger volume of business; but with the sudden change which has taken place by reason of the war, a vast amount of traffic which for years has been going through Northern ports should, in the interest of the nation, be forced through South Atlantic and Gulf ports. The Northern ports are badly congested. It is impossible for them to increase their terminal facilities rapidly enough to take care of growing traffic. The coming of the winter always causes a congestion of traffic and almost a breakdown of the railroad system of the East, so wholly inadequate to meet the situation. The congestion of traffic on these Eastern lines and at Eastern ports hampers the entire business of the country, lessens its ability to ship foodstuffs and munitions abroad, and produces almost endless confusion in every business establishment in the country by reason of the inability of the railroads at these congested seasons to deliver freight promptly.

This situation must be met, as the MANUFACTURERS RECORD advised at the beginning of the European war, three years ago, by a larger development of export traffic through Southern ports. At that time we said that the congestion at North Atlantic ports presented a great strategic opportunity for the railroads and for Southern ports to swing traffic through the South. The question has now become very much larger, however, than merely the interest of Southern roads and Southern ports; it is a national issue; the nation's welfare is staked on the ability of the railroads to carry from the West the enormous volume of traffic in grain and other freights which must of necessity go abroad, and on the ability of the ports to handle it.

If we should continue to attempt to handle this traffic mainly through Northern ports, as heretofore, the railroads would be congested, with thousands and tens of thousands of cars remaining idle, blocked on snow-covered, frozen tracks. Harbor facilities would be unequal to take care of the stuff as brought in by the roads, and every interest of the nation and of our Allies would suffer.

We can meet this condition in one way only; that is, by the fullest utilization of existing facilities at all South Atlantic and Gulf ports which have been wise enough to provide terminal facilities for foreign trade and by developing increased facilities wherever needed. None of these ports have facilities adequate to meet this new trade which should be thrown upon them by the Government's Railroad Board. This board should immediately arrange to send as much traffic through South Atlantic and Gulf ports as can possibly be handled with existing facilities, and it should at the same time co-operate with railroads, with Southern ports, and with the Government itself for bringing about a rapid enlargement of the warehousing and shipping facilities at the best located Southern ports.

We are spending and preparing to spend nearly \$2,000,000,000 upon a merchant marine, and our English Allies advise that we must plan for the building of at least 6,000,000 tons a year in order to meet the danger of the submarine warfare. The building of this enormous tonnage will tax all the shipbuilding facilities of the entire country, and this activity in shipbuilding at South Atlantic and Gulf ports would be materially aided by turning export traffic through these ports, and the traffic would be helped by the development of shipping and shipbuilding at these ports.

When the war is over, whether that time be short or long, this country will stand out as the center of world activities. We shall have to meet the needs

of enormous expansion that will inevitably come to our domestic trade, and we shall have to go into the world's market with foreign trade on a vast scale to fill up the vacuum which is being created by the war. We shall have to help to rebuild Europe as well as feed its people, and we shall have to meet the demand of all the world for our products. All the existing port facilities in this country are wholly inadequate to meet such a situation, and it will be difficult for the Government and the railroads and private capitalists to expand our port facilities within the next year or two to an extent sufficient to take care of this world-encompassing traffic that will inevitably be ours.

These facts should be pressed upon the attention of Government officials, upon the railroads of the whole country, as well as upon the Southern roads and Southern communities. New Orleans has done wonderfully well in spending millions of dollars for the building of municipal cotton warehouses, grain elevators, etc., but the traffic available for New Orleans under conditions which should exist from now on should be far greater than these facilities can handle. Other Southern ports must follow New Orleans' example whenever they can do so advantageously, and railroads must co-operate and build increased facilities themselves; but in view of the world emergency it would seem not inappropriate for the Government to build at some of the Southern ports great warehouses and wharf facilities. It would be a mistake, however, for any community in the South to trust to this being done by the Government. No community that does not of its own initiative and with its own money undertake to do the best it can has a right to look to the Government for anything.

A freight traffic manager of a leading Southern road, who has given much study to this subject, in a letter to the MANUFACTURERS RECORD says:

I have read with much interest your article on pages 56-7 of your issue of September 27. Have also noted recommendations on page 60, and reference to equal rates to South Atlantic ports on page 66-c of the same issue.

While it is all right to secure additional port facilities at Southern ports, at the same time it is a fact that the "powers that be" and the exporters in general do not seem to be aware that the present facilities at South Atlantic and Gulf ports are not being used to anything like their full capacity. The situation at these South Atlantic and Gulf ports, as it is at present and has existed during the current year, is approximately as follows:

Charleston, S. C.—Practically idle.
Savannah, Ga.—Using about 50 per cent. of capacity of port facilities.
Brunswick, Ga.—Using about 10 per cent. of capacity of port facilities.
Jacksonville, Fla.—Practically idle.
Pensacola, Fla.—Practically idle.
Mobile, Ala.—Using about 25 per cent. of capacity of port facilities.
New Orleans, La.—Using about 50 per cent. of capacity of port facilities.
Galveston, Tex.—Using about 50 per cent. of capacity of port facilities.

All of these ports have reasonably ample dock and storage facilities and deep water sufficient for handling large transatlantic vessels. These ports can be utilized to a much larger extent in relieving congestion at Eastern ports.

The greatest car shortage during the last year or so has existed in Southern territory adjacent to South Atlantic and Gulf ports, and recently it has been necessary to handle empty cars from north of the Ohio and Potomac rivers down to that territory by special trains in order to supply equipment for Government freight. If these Southern ports were used to their full capacity it would not only relieve to some extent the chronic congestion at Eastern ports, but it would also take cars under load into territory where the greatest car shortage normally exists.

Who are the "powers that be" who have failed to realize the opportunity for exporting through Southern ports? Are they Government officials, financiers, Interstate Commerce Commissioners, Western railroad men or Southern railroad men? What have Southern railroads done toward developing the potentialities of this traffic?

YOUR LAD AND MY LAD.

[Randall Parrish, in the Chicago Tribune.]

Down toward the deep blue water, marching to throb of drum,
From city street and country lane the lines of khaki come;
The rumbling guns, the sturdy tread, are full of grim appeal,
While rays of western sunshine flash back from burnished steel;
With eager eyes and cheeks aflame the serried ranks advance;
And your dear lad, and my dear lad, are on their way to France

A sob clings choking in the throat, as file on file sweeps by,
Between those cheering multitudes, to where the great ships lie;
The batteries halt, the columns wheel, to clear-toned bugle call,
With shoulders squared and faces front they stand a khaki wall.
Tears shine on every watcher's cheeks, love speaks in every glance;
For your dear lad, and my dear lad, are on their way to France.

Before them, through a mist of years, in soldier buff or blue,
Brave comrades from a thousand fields watch now in proud review;
The same old flag, the same old faith—the Freedom of the World—
Spells duty in those flapping folds above long ranks unfurled.
Strong are the hearts which bear along Democracy's advance,
As your dear lad, and my dear lad, go on their way to France.

The word rings out; a million feet tramp forward on the road,
Along that path of sacrifice o'er which their fathers strode,
With eager eyes and cheeks aflame, with cheers on smiling lips,
These fighting men of '17 move onward to their ships.
Nor even love may hold them back, or halt that stern advance,
As your dear lad, and my dear lad, go on their way to France.

THE MAN WHO OVERCHARGES OR DEFRAUDS A SOLDIER IS AS CONSCIENCELESS AS A HUN AND SHOULD NEVER BE ALLOWED IN ANY DECENT COMMUNITY.

Greensboro, N. C., October 10.

Editor Manufacturers Record:

We are pleased to enclose herewith our check in payment of a year's subscription to your paper.

The writer has noted with a great deal of interest your editorials, and one thing that has occurred to us, which may not be anything new, is that a good article might be written on the various towns and cities that have one of the training camps, as we believe you will find, upon investigation, that many advantages are being taken of the young men who are in training in the way of charging excessive and exorbitant prices for everything that is sold. It would seem that when these young men are drafted or enlist in the army, and receive a very small salary, that it is unfair to them to charge excessive prices for things they may want to eat, or, in fact, anything they might want.

This being on the writer's mind in sending check and looking at some of the editorials printed in your paper, is simply passed along for what it may be worth.

STERLING FURNITURE CO.

"Unfair" to overcharge a soldier! The highway robber, the common every-day thief, the lowest bum in the county workhouse, the wolves and jackals of trade are all Christian gentlemen with angels' wings already sprouting as compared with any man who takes advantage of a soldier or who overcharges him in any way. The man who would rob or overcharge a soldier should be chained to the Kaiser through eternity if anyone can forge an asbestos chain which will stand the fire. And if any community does not run down and send to the penitentiary or somewhere worse every man who tries to rob by exorbitant charges the "Saviors of Civilization," it deserves the same condemnation given to these betrayers of the men who must offer their lives to save us and civilization. But we hope that our correspondent has been misinformed, and that no such jackals and hyenas are permitted in any town near any encampment.

How the Petty Political Demagogue or Ignorant Incompetent in Washington Is Injuring the Country.

SCARCELY a day passes without some busybody in Washington, often mentioned as an important official of this department or that department, sending forth statements calculated to upset all business interests and to do the country infinite harm.

A few months ago a statement was sent broadcast throughout the land that munition makers were trying to rob the Government by not paying taxes on their full earnings. A few days ago exactly the same story was sent out, almost word for word, and was eagerly published by the daily papers as though it was something new, when all of them had published the same item months ago.

An explanation which the average newspaper reader would not understand was tacked in somewhere in the most inconspicuous way, to the effect that munition makers had been charging a larger depreciation account than the Government thought was fair, and that in doing this they had lessened their apparent net profits. Therefore, the real difference was not a difference as to whether the munition makers were dishonestly seeking to rob the Government, but as to whether they were justified, knowing that their books could be thoroughly audited at any moment, in charging to depreciation a larger amount than the Government itself might be disposed to grant.

Munition makers have learned by sad experience that the profit in their work is much less than they had anticipated. Comparatively few of the concerns that took big orders for the Allies at the beginning of the European War came out square. A number of them lost heavily instead of making heavily, and many have quit. The munition makers have had to build special plants designed expressly to make war supplies. When the war is over, some of these plants may be worth little or nothing. If a sufficiently large depreciation account is not allowed to wipe off a fair proportion of the investment in these plants, some of these concerns at the end of the war, instead of finding that they have made money, will find that they are bankrupt, or very nearly so. Any industrial plant that does not, even in ordinary business times, allow an ample depreciation account for machinery and buildings, sooner or later gets into financial difficulties. It is easy enough to make a showing of good profits for many concerns by a failure to take into account an adequate amount for depreciation; but when the reckoning day comes and the plant has to be rebuilt or re-equipped, the concern finds itself hopelessly bankrupt. Thousands of concerns have gone to the wall on this account.

We know nothing whatever in regard to the details other than those stated in the daily papers about the Government's refusal to allow the amount of depreciation on munition plants which the munition makers felt justified in charging up; but to undertake to create the impression throughout the country that the munition makers as a whole were seeking to rob the Government by false bookkeeping is suggestive of the fact that the man who is always charging somebody else with being a robber is mighty apt to have down in his own brain a feeling that he would rob if he got the chance. Honest people are not always suspecting other people of dishonesty.

Some petty politician gets a job in Washington, and he feels his importance to such an extent that he tries to lord it over creation and call everybody else robbers, or charge them with lack of patriotism, as though the business men of this country were not on the whole a great deal more honest and a great deal more patriotic, and infinitely abler in judgment, and generally in integrity, than the upstart politician, who, by virtue of his little authority, seeks to misrepresent others, hoping to bolster himself up and make his position important.

And now Dr. Garfield or those around him are spreading broadcast stories about having discovered that some manufacturers had stocked up coal, and this is made to appear as though they were highway robbers, whereas every intelligent man should know that during summer time all manufacturers, especially in the North and West, must of necessity store

coal in order to have a supply when ice and snow blockades shut off transportation. Everybody should know that this is absolutely essential, and yet, apparently from the coal administration, come statements so rank and rotten that they are simply creators not only of socialism, but of anarchy itself. President Wilson has made some most unfortunate selections of men, some cranks and some visionary theorists, while in other cases he has secured men of exceptional ability. The sooner the incompetents are dropped the sooner will we have a force of men in Washington to measure up to this, the greatest task which any nation on earth, all things considered, has ever undertaken.

Every statement of the kind sent out by Washington about coal storing and munition-makers swindling the Government, based on fiction, pure and simple—and they are being sent out almost every day—creates a spirit of ill-will, of class hatred, and causes such a disgust on the part of intelligent men with Washington officials that it would seem that one of the best things President Wilson could do would be to inject into all of these departments a degree of intelligence and confidence in the business integrity of the nation, which seems to be sadly lacking now. President Wilson might then try to devise some way to prevent every Tom, Dick and Harry who holds some petty political job from using his position to misrepresent agricultural conditions, business conditions and everything else that goes on merely for the purpose of seeking to show to his superiors that he is capable of doing something. His capability generally consists in injuring the country.

Since the foregoing was put in type we are in receipt of a letter from the president of one of the leading manufacturing enterprises of the country so directly in line with what we have said, but so much more comprehensive and in such detail in specific illustrations, that, omitting the name of the company and the writer of the letter, we give it in full. It deserves the careful study of Washington authorities:

It is very gratifying to me that you can give me so much of your time under conditions that make such enormous demands on every atom of your energy.

I agree absolutely with you in your conclusion that nothing savoring of criticism should be published until after the completion of the present loan campaign. It also seems to me that the various subjects mentioned in my letter of the 15th to you might be properly divided into two general classes; one for presentation to the public and one to be made as a personal appeal to the proper department heads at Washington.

The injustice of the falsely styled "excess war profits" tax and the lack of able and large men in high official positions can be remedied only through public sentiment. The mistakes in handling the loans and the constant attacks on business should be made the subjects of strong personal appeals to those in authority.

It seems to me that the awful conditions in Russia should make our college professors and other well-meaning people with socialistic tendencies pause and realize that the times are peculiarly favorable for reaping the whirlwind from the sowing of a gentle breeze.

I don't know whether the various utterances of official Washington are from avowed Socialists, or are merely the attempts of one official to demonstrate that his zeal and ability are as great as those of his colleagues; but I do know that these constant attacks on the honesty and patriotism of business men are creating in the minds of the masses the fixed idea that the well-to-do and the employing class are devoid of all decency and should be outlawed.

The Socialistic vote in Buffalo has always been in the nature of a joke. Under Buffalo's commission form of government, primary nominations are held, and only the highest two for each office are printed on the voting machine. Last week Buffalo held its primary. Four men were in the field for Mayor, being backed by the Democrats, Republicans, Socialists and Reformers. In round numbers the results were Democrat 18,000, Republican 14,000, Socialist 14,300, Reformer 6000, and the Socialists have demanded a recount, with the strong possibility that a voter will have to go to endless trouble to vote for anyone other than the Democrat, whose popularity is based on the belief that he is for a wide-open town, or the Socialist, who is against conscription and everything else.

I wish to call your attention to but two specific cases which have just come to my notice, either one of which must have a disastrous effect on the public mind. You have, of course, noticed these things, and many more in

addition, but it won't do any harm to call them to your attention again.

First, is the alleged "tax evasion of \$17,500,000" on the part of munition makers, as set forth in the enclosed clipping.

You can imagine the righteous indignation of the normal man in seeing that these wealthy manufacturers are through lying, trickery, holding back from the Government \$17,000,000 of excess profits obtained by them from the blood of humanity; and still, without knowing a thing about these specific cases, and basing my idea wholly on the experience of my company, I would be willing to stake everything I have that there were no evasions; that the amounts reported by the involved concerns were correct, and that the larger amounts were obtained only through the improper, unsound and actually dishonest ruling of the Treasury Department.

A number of exceedingly able men have been kind enough to express their confidence in me as an accountant. In 1898 I devised and put into effect a system of accounting for this company. In 1901 a certified public accountant, testifying against us in a lawsuit, stated that our system was the best he had ever seen. We are still using that system, with no change whatever. In 1898 there was no reason for keeping books for the purpose of cheating the Government. We handled our accounts for the sole purpose of telling ourselves what we had done and how we stood. When the income tax went into effect, our reports to the Government were exact transcriptions from our own records. These reports were apparently accepted, and our taxes were settled and paid in accordance with the reports.

Last June we had a visit from a "field investigator," who dug into our records from 1909 to 1916, inclusive. He was a very pleasant man; complimented us on the clear and clean condition of our books; said that as our buildings were on leased land he personally thought we were charging hardly enough to depreciation, but that under the department rulings the Government couldn't allow depreciation to the extent we had charged it on our books.

He discovered that we had charged to expenses a contribution of \$25 a month made to a local hospital where our injured men go for treatment, and gravely informed us this was an evasion not tolerated by the department.

Our employees pay five cents per week to a fund for paying benefits during illness, and the company pays into the fund an amount equal to the total contributions of the men. Of course, this amount was charged to expenses, and legitimately so, because entirely outside of any factor of philanthropy, the existence of this fund tends to longer service on the part of our men and in that way saves us many times the amount of our contributions. All of these payments, aggregating \$10,000 to \$12,000 for the eight years, were charged against us as improper deductions.

I asked the investigator what would happen if we simply raised the wages of our men five cents a week and had them pay ten cents a week to the fund, and he told me in that case it could be properly charged to expenses. Here is a legitimate expense which if correctly shown cannot be allowed, but which if lied about will go through without comment!

If you pay \$50 for an office desk, how much could you get for it at a forced sale one year from now?

Following the custom of all concerns whose books are kept with the slightest reference to conservatism, we have no "office furniture" account, but charge purchases direct to expenses.

The investigator asked where our office furniture account was, and on being told the facts, said that was a striking evasion of the tax. He then dug up an aggregate of some \$20,000 paid during the eight years for office furniture and added this to all the other evasions. Now the articles paid for by that \$20,000 represent so far as present money value is concerned a lot of second-hand junk, and several hundreds of it was for typewriters long since worn out and thrown away.

When we had got through gasping at this we asked if the department didn't allow depreciation on office furniture, and were told that it did, and at a rather liberal rate. We then asked him to deduct from the \$20,000 added the official rate of depreciation, and in reply to this were told that it was a positive ruling of the department not to allow depreciation that had not been entered up on a concern's books!

I could go on for 50 pages in an account of this one session with the investigator. The rulings of the department were unsound, unsafe and unethical, and the applications of these rulings are dishonest and meanly tricky. Trickery in a business man is bad, but trickery on the part of a Government is infinitely worse.

We have a factory in England. Last year the British Munitions Board, finding we were unable to produce all the materials it wanted, told us that if we would extend our plant we could charge 75 per cent. of the cost of the extension to depreciation the first year.

Based on these experiences, I am morally certain that the munition makers here spoken of were doing only what any sane man would and should do. If the department unwisely used its powers to exact an improper tribute from these concerns, that is bad enough; but to go beyond that and practically brand them as traitors is inviting the destruction of our whole social structure.

We keep our accounts in a scientific and accurate manner approved by long experience. We will suppose that under this system we show that our Government tax amounts to \$300,000. If the Government actually needs \$500,000 from us, then if the Government would simply arrive at that amount by making the tax rate high enough to produce it when applied to honest figures, we would gladly pay \$500,000 if it was a physical

and financial possibility; but to have the additional \$200,000 taken from us by falsifying our records and then being held up to scorn as slackers and traitors almost makes anarchists out of us.

The other incident is this: Last night's papers announced in glaring headlines that Garfield had found 1,000,000 tons of coal hidden near Cleveland. The clear inference from the headlines was that some one concern or syndicate had concealed a stock of coal and was holding it for a big price. Of course, such a thing would make the reader's blood boil, and a few more Socialists would be made.

The full text of the article showed that a Washington official had said that it had been found that various concerns in the Cleveland district had established reserve stocks of coal to the aggregate of 1,000,000 tons, and that in spite of this reserve those concerns were still asking for and receiving coal for their current needs. The statement was further made that whenever desirable, the Government would seize these stocks, paying for them the fixed official rate.

I don't know much about the climate of Cleveland, but presume it isn't greatly different from that of this place, and I do know that for many years, not as a speculation nor to keep others from getting it, but as an elementary and necessary measure of prudence, we have made it a rule to have by November 1 a three months' supply of coal in our yards. And every other concern here does the same thing. The reason is obvious. During the winter months in this climate the snow and cold makes freight movement slow and uncertain. Under the most favorable conditions we can never get enough coal in the months of November to March to anywhere near meet our current needs. The stock in reserve on November 1 is gone by April 1, and by June or July we commence to stock up again.

We are therefore entirely justified in believing that these Cleveland district concerns are merely doing now what they have always done, and that if they didn't do it their plants would close in the winter, resulting in a loss to the public, and in distress to their employees.

But some little chap in Washington sees good copy in it, and so adds a little more dynamite to the forces that are gathering to blow up our civilization and put us through the horrors that Russia is now experiencing.

Isn't it possible to bring any pressure on Washington that will induce official Washington to stop talking and go to work?

To every statement in this letter we say amen, as does every other honest, intelligent man in the country. Is it too much to hope that President Wilson and the members of the Cabinet will understand this situation and realize ere it is too late that while Germans poison the wells to kill their enemies' bodies, our Government through these many blunders is poisoning the minds and souls of the people of this nation and thus endangering national life itself?

HOW TO BROADEN ITS WORK.

ONE of the officials of the Southern Alluvial Land Association, Memphis, recently said to a representative of the MANUFACTURERS RECORD that when the copy for which it subscribed is received in the office every week "a group of the neighbors, comprising several lawyers and a judge, congregate to read the MANUFACTURERS RECORD and discuss what it publishes."

In all parts of the country somewhat similar conditions exist, and thousands of people are reading the MANUFACTURERS RECORD who do not subscribe to it. We would like to number them as subscribers. We believe it would do them good to feel that the paper was coming directly to them and that they could pass it on to others, and thus perchance broaden the work which it is trying to do in the interest of the nation. If, however, they cannot subscribe, but must depend upon borrowing copies from others, we are glad to have them read it. Our aim now is simply to reach the public with the facts, and we trust that every copy of the paper and of the pamphlet, "America's Relation to the World War," will be passed on from one to another. But if the borrowers could be counted as subscribers the work of the MANUFACTURERS RECORD could be still further broadened.

BONDS INSTEAD OF LAUNDRY.

FROM far-away India comes a letter to the MANUFACTURERS RECORD from Ahmed Hafiziddin of Hyderabad, India, throwing a little sidelight on the world-wide effect of the war, in which it is said:

I regret very much to inform you that the shareholders of the company have decided unanimously to purchase the Indian war loan bonds instead of opening a washing laundry.

ONE WAY TO HELP LIBERTY LOAN BONDS

To Prospective Advertisers:

We have already subscribed to Liberty Loan Bonds much beyond our annual earnings in addition to the amount subscribed by our officials and employees. But this does not satisfy us.

Therefore, we are making this proposition to prospective advertisers:

We hereby agree to subscribe for Liberty Bonds, in addition to the amount already taken, to the extent of the gross amount of advertising contracts received by the morning of October 27, by mail or wire, from responsible concerns for a period of not less than six months.

Possibly you are contemplating sooner or later advertising in the Manufacturers Record. If you will send us a contract to reach here in accordance with the terms named, the gross amount of your contract and of all other contracts received under the same offer, will be used as an additional subscription from this company to Liberty Bonds.

We think it is hardly necessary to emphasize to you the standing and value of the Manufacturers Record as an advertising medium.

To Prospective Subscribers:

Every new subscription received prior to October 31, in answer to this, will be invested in Liberty Bonds.

For three years the Manufacturers Record has, we believe, been the most pro-American paper in America. We have sought unceasingly to arouse our nation to the certainty of this war, and our readers everywhere are enthusiastic as to the fight we are waging in behalf of this nation and of civilization.

If you would read the most virile, aggressive exponent of Americanism in America, then read the Manufacturers Record. If you are already subscribing, then subscribe for one or more copies for friends or business acquaintances. You will do them good—you will help to quicken latent patriotism, and if received before October 31 your subscription or subscriptions will go directly into Liberty Loan Bonds. In this way we are seeking to open up new ways of bringing the aggregate of small amounts to the Liberty Loan.

The supreme duty of every man in the nation is to bend every energy to this work.

MANUFACTURERS RECORD.

HAVE YOU DONE YOUR PART? DR. HILLIS' SPEECH NOW IN PAMPHLET FORM.

If your family was being attacked by some unspeakable brute, of how little value would money count to you if you could save them. Your family will be attacked by many unspeakable brutes if these unspeakable brutes cannot be defeated on the battlefields of Europe, and unless you and other Americans buy Liberty Loan Bonds we cannot as a nation do our part toward making this country safe from these unspeakable brutes. Have you fully done your part?

AMERICAN SHEET & TIN PLATE CO.,
District Sales Office, Union Trust Building,
W. T. Shannon, Manager of Sales.

Cincinnati, October 20.

Editor Manufacturers Record:

Kindly forward me pamphlet on "America's Relation to the World War." Ten cents is herewith enclosed to cover cost.

I have just finished reading the wonderful article written by the Rev. Dr. Hillis, which gives the people of this country results of his observations in France and Belgium during the months of July and August. It is a wonderful article and I congratulate you sincerely upon having been successful in obtaining it for publication in your newspaper. C. H. FITZWILSON.

We have put into pamphlet form Dr. Hillis' wonderful speech based on his two months' investigation of conditions in France and Belgium, and will forward copies to any address at five cents each.

Cabinet Members and Governors Call the Nation to

SPECIAL DISPATCHES TO MANUFACTURERS RECORD

Money a Powerful Factor in Winning of the War.

[Special Dispatch to Manufacturers Record.]

Washington, D. C., October 23.

While it is true that Liberty Bonds are a safe and profitable form of investment, and that there are many advantages in buying them, these selfish inducements are of least importance compared with the one vital and compelling reason for every American to buy a bond, that by doing so he is privileged to contribute directly to the success of our arms and the restoration of peace. It is no small gratification to a patriotic citizen to know that, though he stay at home, he can give to our soldiers and sailors the support and equipment without which their lives may be sacrificed in vain. Money will be a powerful factor in the winning of the war, and every bond that is taken now hastens the day when our men will return, and when they can again dedicate their energies to the constructive pursuits of peace.

ROBERT LANSING.

Every Patriotic Citizen Should Love to Invest.

[Special Dispatch to Manufacturers Record.]

Washington, D. C., October 23.

Secretary Daniels is out of town. He has written the following statement for another party, which may be used if desired.

"The privilege is now open to the people of every city and community in the country to enlist their money in the great war to insure free government in the world. Every patriotic citizen should love to make an investment in the larger preparation to win this war. It is an investment that will pay a fair dividend in dollars and an immortal dividend in the consciousness of helping the boys who give up all to go into the trenches.

"The spirit of America was seen in the oversubscribing of the first loan. It will be emphasized, I am sure, in the oversubscribing of the second loan.

"It was once a common saying that no rich man who died in Boston could be respectable unless he made some bequest to Harvard. Just as no young man between 21 and 30, one who is physically fit, can maintain the admiration of his community unless he does his share in the war, so no man with \$50 that he can spare should feel that he is doing his duty unless that \$50 is enlisted in the cause."

EDWARD E. BRITTON, Private Secretary.

The Two Great Tasks Before America—Soldiers and Money.

[Special Dispatch to Manufacturers Record.]

Washington, D. C., October 23.

Two great tasks lie before us. One, to put a fighting force of adequate size and suitable training on the battlefield of France; the other, to so equip and supply those troops that their effectiveness will not be minimized. The War Department is attending to the former to the best of its ability, and the latter can be accomplished only by the whole people acting through the agency of the Treasury Department Liberty Loan.

No sacrifice is too great to make it possible that the sons of our citizens shall have proper facilities for doing the great work that they are about.

NEWTON D. BAKER, Secretary of War.

A Magnificent Call to the Nation—Greater Truths Never Stated in Fewer Words.

[Special Dispatch to Manufacturers Record.]

Washington, D. C., October 23.

I reply to your wire of the 22d as follows:

Science and industry are warring. Men but use the weapons they create. Germany has science, industry, men. We must have superscience, superindustry and supermen. The biggest guns, the biggest shells, the biggest airplanes, the biggest ships, the brainiest and the bravest men win. Science waits on industry, industry waits on dollars. Our men, the world's best and finest, wait on both. They face a cruel, determined, resourceful foe, plotting world dominion. They need good clothing, weapons; the wounded, nursing and healing. Give our dollars and they live victors. Hold our dollars and they die, and our liberties with them.

T. W. GREGORY, Attorney-General.

"Back the Boys in the Trenches."

[Special Dispatch to Manufacturers Record.]

Washington, D. C., October 23.

Patriotism and love for our sons and the great cause for which they are fighting should inspire the purchase of Liberty bonds. The safety of the investment should encourage the cautious; the safety of the nation demands it. Self-interest should impel such as have none but a selfish motive to insure all they have against spoliation by the enemy. The premium for the insurance would not be large if it took the savings of a lifetime, yet these savings would be as secure as in a safe deposit box and draw interest. "Back the boys in the trenches."

A. S. BURLESON, Postmaster-General.

More Bonds, Less Bloodshed—Which Do You Choose?

[Special Dispatch to Manufacturers Record.]

Washington, D. C., October 22.

Bond subscriptions are required to furnish our boys abroad with food to eat, clothing to wear and tools for working and fighting with. It is the literal truth that the more bonds are sold, the less the bloodshed, for the failure to equip and support our men means wastage of life. Our army is the spearhead of the nation in the war, but the spearhead is of little use unless the shaft of the spear be strong, unless the power behind it be amply sufficient to drive it home. The war is not fought by the Army and Navy alone, but by the miner, the mechanic, the financier, the men, women, boys and girls who save the farmer—by everyone who will put his money and his work into the scale.

WM. C. REDFIELD,

Secretary of Commerce.

The Fate of Civilization Rests Upon Us.

[Special Dispatch to Manufacturers Record.]

Washington, D. C., October 22.

There is at this time a solemn duty and responsibility resting upon every man and woman in this country having either property of any kind or income from any source or credit to subscribe up to the limit of their present ability to the Liberty Loan. Upon this country

now depends the result of this war and the fate of our civilization. We must have these funds to arm and feed the soldiers who are going so bravely forward, ready and prepared to endure unspeakable hardships, and, if the call comes, to lay down their lives for us.

God grant that those who stay behind shall not be shirkers and refuse to furnish the food and ammunition for those in the trenches and those on their way to the firing line.

JOHN SKELTON WILLIAMS,

Comptroller of the Currency.

Secretary Lane Declares He Found the Country Enthusiastic for the Loan.

[Special Dispatch to Manufacturers Record.]

Washington, D. C., October 23.

I have just returned from a three weeks' trip throughout the West. I went from Louisiana through Oklahoma, Kansas, Colorado, Wyoming, Utah, Idaho to Oregon. My journey was one of curiosity. I had been told that somewhere in the far-distant reaches of the continent the men and women of our country were disloyal to their flag, or at least they did not think enough of it to fight for it. Washington, as some of you know, is a strange place. It is a cup, a valley surrounded by a horseshoe of mountains into which, by some strange law, the miasmic vapors of the country drop and set up strange states of mind. I was told in Washington that the only section of this country which was enlightened and patriotic enough to understand the deep significance of this war and to be willing to sacrifice for it was that fortunate section which bordered on the Atlantic Ocean; that out beyond the hills to the westward were to be found limitless plains upon which lived those who, like some Buddhist monks of whom I have read, sat throughout the days in silent and solemn contemplation, their eyes centered on the pits of their stomachs, never looking up at the sky nor out upon the fields, and never hearing the voice of the world as it passed by—self-centered, flabby, spiritless. And so I went out beyond these western hills to find these strange creatures at this time. There are many hills between the Atlantic and the Pacific, and as I crossed one range after another I was told, "If there are any such people, they were beyond the other range," until I came to the sea that looks out upon China. And I did not find those for whom I sought. I came back with the feeling that it is a good thing to leave Washington once in a while.

I went to Oklahoma. There, I had been told, that I would find the very seat and center of hostility to the Government. I found that a few misled tenant farmers had objected to the draft. When I asked what reason they gave, they said New York had brought on the war, and New York should make the fight. But that was not the spirit of Oklahoma, not nearly so much the spirit of Oklahoma as the draft riots were the spirit of New York in '63. There is one town of 5000 people in Oklahoma which bought \$275,000 worth of Liberty Bonds, more than one \$50 bond for each inhabitant, man, woman and child, and which raised \$18,000 for the Red Cross, more than \$3.50 for each inhabitant of the town. That does not look like slacking. After a meeting in Tulsa a man came to me, dressed in a blue jumper and overalls, and said: "Mr. Lane, I am doing my bit. I have six children, four boys and two girls. The four boys are in the Army and the two girls are Red Cross nurses, and I am saving to buy a Liberty Bond." That does not look like slacking, either.

In Salt Lake City I reviewed the newly-organized troops, and the grandson of Brigham Young, who is a colonel of one of the regiments, pointed with justifiable pride to one of the companies that passed, and said: "Every boy in that company has bought a Liberty Bond. They are not only willing to fight, but they are

to Liberty Bonds as Supreme Issue of the Hour

FROM LEADERS IN THIS COUNTRY'S AFFAIRS

willing to pay for their own support while they are fighting."

In Idaho ex-Governor Hawley took me into his library and showed me the picture of four boys upon the wall, his sons, and said: "I am left all alone. All those boys have gone into the war."

In Portland, Ore., they told me that not one man had been drafted from that county, because the full quota of the county had been filled by men who volunteered for the regular army or militia.

That is the spirit of the West. Kipling says that "East is East and West is West," but I say to you that there is neither East nor West to this country. It is one, bound by a common determination to win this war.

There are some who cannot understand why we do not have 1,000,000 men in France at this moment. Where are the ships to carry them? But we are going to have those ships. By next spring we will have 1,000,000 tons of new shipping. By then we will be producing the equivalent of two 5000-ton steamships per day, and can continue indefinitely.

We are a critical people. Each one of us knows best how a thing should be done. Now, I have no doubt that we have made mistakes and will make mistakes in preparation for and in the conduct of this war. But if this huge and unparalleled job cannot be done, it will be because there are not men in the United States who can do it, for we have not hesitated to call upon those men who have proved themselves in the conduct of the greatest enterprises on this continent—railroad presidents, engineers, chemists, contractors, manufacturers, inventors. The brains of the United States is involved in the conduct of this war. We have asked no man whether he is a Republican or a Democrat. We have not sought to know whether he was rich or poor. If he could serve the nation at this time, he was our man. And it is a matter of the profoundest pride to me and to every one who knows the facts that the business men of this country, those identified, if you please, with "big business"—the men from your banks, the railroad officers, brokerage officers, your insurance companies, your factories—in this city have not waited for the call, but have volunteered in overwhelming numbers to give of their time and their capacity, without compensation, in this hour of the Government's need.

There is no thought throughout the country that we will not succeed either in raising the money or the men that we need. This task upon which we are engaged, it must be remembered, is the greatest enterprise that any nation has ever undertaken. For we have not only had to create an army, house it, equip it, transport it and supply it, but we have had to help in the financing of four of the greatest nations of the world, to aid in the reconstruction of their railroads, in supplying them with munitions and with food, and this at a distance of more than 3000 miles. We have had to stimulate our own industries and our own agriculture. We have had to make plans for saving food and saving money, for the protection of our own people as well as others against profiteering. Each day there have been prophecies of failure, but our Navy patrols the sea, and not a man has been lost on his way to France; our Army is housed, clothed, and is in the field drilling, and we are getting rifles for them at the rate of 15,000 a day.

The message that the West send to you is this: Have faith in your country, have faith in your Government; remember that prophecies of evil always fail in the United States.

I am here to ask your help in the name of the President and the Secretary of the Treasury in the sale of the new issue of Liberty Bonds. Our appeal on behalf of the nation is to the people of the nation. This is a fight for democracy, and we are following democratic methods. A war for democracy should be supported by the money of democracy.

We have drafted our young men into our Army. The son of the millionaire stands today in the ranks alongside the son of the drayman, the lawyer alongside his own baker. We have made no preference and drawn no

line of distinction, and when these same men "go over the top," the guns of the enemy will show no preference and draw no distinctions. This nation has been summoned to arms in a cause that is right, and every man and every woman will serve their country in this contest. There is not so much credit in giving our money as in giving our lives, but in a war which is the organized industrialism of all nations the giving of life will be idle without the guns, the food, the aeroplanes, the trains, the ships, the factories—all those resources which money can command. One-half of the men now in camp are volunteers, militia or regular army men; the other half of them drafted. And this same method, a combination of compulsion and voluntary offering, we are following as to our finances. Some of our revenues we take by the stern mandate of the law in the form of taxes; the rest we ask for as a loan from our people.

This is to be a grim time for us. Let us not delude ourselves or carry any false illusions that the righteousness of our cause, the injustice done to us, the vastness of our resources or the greatness of our man-power will so touch or overawe the enemy as to make them seek a peace that will make this world safe for democracy until those who have forced this fight realize that with the world against them they cannot win. Lloyd George said the other day that the United States had never fought a war that it had not won. He might have added that we never fought a war in which we did not know that we were right. This war, however, is to be a supreme test. We are to test the fiber of our people; we are to test our ability to co-operate; we are to test our sense of nationalism; we are to test our loyalty to democracy; we are to test to the ultimate the resources of our nation, the capacity of our mines and miners, of our farms and farmers, of our mills and mill hands. We are to test our own vision and the greatness of our own minds—whether we are worthy of a large future or wedded to a little life; we are to test our own conception of this country and its relation to the world.

Why is the world against Germany? Germany does not know that the time of empires and emperors is past. She does not know that the day of arbitrary might has gone by. She will not play the twentieth century game under twentieth century rules. If Germany succeeds, we will sail the seas by her consent, carrying our goods where she permits it. We will live with a country filled with spies and with our national capital undermined by foreign intrigue. We will never be sure of the loyalty of our neighbors. We will never be sure of the word that nations give to us. We will endure life with the horrors of another such war constantly in our minds. We will pay taxes unending and huge to support an army which we do not want but must have. Our sons will be raised with the constant thought in their minds that theirs is not the mission to reclaim the land, to dig the mine, to carry out the experiment, to lay the railroad, to lead the minds of men, to master the forces of unwilling nature; for, from this hope, this dream of usefulness, they may any day be turned aside by the stern necessity of self-protection; and their wives may be raised with the picture constantly before their eyes of what has befallen the Belgian women. This is not a life for a self-respecting people. We must know where we are and what our standing is and what our future may be. We must know that we have rights upon this world—rights that do not depend upon sufferance, rights that we can assert. And we must know that while we observe the common laws that govern mankind and keep our pledged word, no nation shall have in its mind the purpose to make us subject to a government that is not of our own making. This is the foundation stone of Americanism.

I ask you, as volunteers in the service of your country, to help in the successful prosecution of this war. I know no people more capable of contributing in small amounts and large to the replenishing of our national treasury. We do not ask for gifts; we are not giving

money to our foreign friends—we are making loans to them, and you are making loans to yourselves.

I ask you to do this in the name of our Commander-in-Chief, who sits in the White House, meeting from day to day the problems of conducting the greatest enterprise upon which this nation has ever been engaged. His is the master mind of our world; he is the leader of liberal thought the world around. Place in his hands the power to make the world safe for democracy.

A Splendid Statement by Governor Catts.

[Special Dispatch to Manufacturers Record.]

Tallahassee, Fla., October 21.

Most contemptible of all slackers is the one who slacks with his dollars. Any man who fails to support his Government in this hour of trial is doing just that much to make world democracy a failure. Today our Government is calling for your dollars and mine, and the failure of the second Liberty loan would be a confession on our behalf that the American people of this generation have deteriorated into a race unworthy of our forefathers. Democracy is not a failure. The second Liberty loan must be a success.

SIDNEY J. CATTS, Governor.

Georgia Governor Making Speeches on Liberty Loan.

[Special Dispatch to Manufacturers Record.]

Atlanta, Ga., October 21.

Governor Dorsey out of city making patriotic speeches on Liberty loan. Will return Thursday, at which time he will gladly give your request attention.

G. B. CULPEPER, Secretary.

Liberty Bond a Souvenir of Patriotism Well Performed.

[Special Dispatch to Manufacturers Record.]

Boise, Idaho, October 22.

"Give me liberty or give me death!" Buy a Liberty Bond, which means death to the German despot, militarism and imperialism. A Liberty Bond is a souvenir of patriotism well performed. It will save the lives of our boys on the battlefield, save the integrity of the Union and brighten the stars upon our flag. A Liberty Bond is a bond that unites the 100,000,000 people into one solid phalanx, facing adversity with a proud spirit to overcome it. To be called an American is to wear the crown of sovereignty and freedom and to have the decoration of a Liberty Bond in your possession is more valuable than any order that can be bestowed.

M. ALEXANDER, Governor.

"Either Bonds Now or Bondage Later."

[Special Dispatch to Manufacturers Record.]

Topeka, Kans., October 21.

All red-blooded Americans should count it a privilege to buy Liberty bonds. It is not only a patriotic act, but it is evidence of good business judgment. When our young men are offering their lives for our country, the least the rest of us can do is to provide funds to properly equip and care for them. It is either bonds now or bondage later. ARTHUR CAPPER, Governor.

We Are Lost Unless We Stand Behind the Government.

[Special Dispatch to Manufacturers Record.]

Carson City, Nev., October 22.

Unless the Government stands back of the people we are lost, and unless the people stand back of the Government both are lost. Our people are practically the only ones in the world who have money to loan. If we don't trust in the United States, who will? If we don't mobilize our men and money to protect ourselves, who will? The second Liberty Loan must be the second American victory.

EMMET D. BOYLE, Governor.

Maryland Must Gloriously Do Its Part.

[Special Dispatch to Manufacturers Record.]

Annapolis, Md., October 22.

To wage a successful war our Government must not only have the necessary money at its command, but must also have behind it the united support of all our people. Nothing can show to our enemies that our Government has behind it this support as an oversubscription to the Liberty Loan. Maryland cannot more gloriously show that she is living up to her past tradition of patriotic accomplishments than by doing the maximum now requested of her by the National Government in subscribing to the Liberty Loan.

EMERSON C. HARRINGTON, Governor.

Duty of Every Patriotic Citizen to Respond Quickly.

[Special Dispatch to Manufacturers Record.]

Boston, Mass., October 23.

Next to a splendid citizenship, the most important safeguard of a nation is a high public credit. It is the duty of every patriotic citizen to respond quickly to the modest call of our country for a loan amounting to less than 2 per cent. of its wealth. That response is necessary to maintain unimpaired the public credit and to sustain the men the country has sent to the front.

SAMUEL W. MCCALL, Governor.

Eyes of the World Upon Us.

[Special Dispatch to Manufacturers Record.]

St. Paul, Minn., October 22.

The eyes of all nations are now on the United States. The early purchase of the bonds of the second Liberty Loan will show to the world the loyalty and patriotism of the American people. By such raising of ample funds the lives of many of our men will be saved, and the saving of life is of more importance than the saving of money. But by the buying of bonds our people are saving both their money and the lives of our boys. No investment can be safer or better. The security back of the bond consists of all the property of our nation. Nearly all of the money thus raised will be expended in our own country, and will be of benefit to our own citizens. But, above all, such an investment is a patriotic duty which our people will gladly perform for the sake of their own funds, their own country and mankind.

J. A. A. BURNQUIST, Governor.

An Obligation That Is Mandatory.

[Special Dispatch to Manufacturers Record.]

Jefferson City, Mo., October 23.

The obligation of the American people to subscribe for Liberty loan bonds to the full limit of their resources

is mandatory. The Government has so arranged it that the people in taking them are not only aiding the Government, but are at the same time doing the best possible thing for themselves. They are not asked to make sacrifices, but merely to be thrifty and economical. He who does not respond cheerfully to this call does not merit the privilege and protection of this Government. I feel confident Missouri will subscribe for her full allotment.

FREDERICK D. GARDNER, Governor.

"Preferred Stock in the Gem of the Ocean."

[Special Dispatch to Manufacturers Record.]

Raleigh, N. C., October 22.

Replying to your wire, I give you the following extract from my speech at the State fair here last week:

"I do not propose to give any advice to the people on this occasion. The people come out to the State fair to have a good time, and advice is out of order and out of tune; but I would be criminally neglectful of your own leisure and profit if I failed to call your attention to the most attractive and most important exhibit at this fair. This is the first time such an exhibit has ever been seen at any fair in these United States. It is something entirely new under the sun. This exhibit has in it more of strength than the lordly head of the herd and more warmth than the fleece of the leader of the flocks. It will carry you farther and faster than the fleetest descendant of John R. Gentry and Nancy Hanks, and sustain you longer than the fattest porker in all the land. There is in it more of solid comfort to the inner man than in possum and potatoes and more juicy sweetness than in the apples for which our first ancestors threw Paradise away. It is absolutely free from the uncertainty that racks the nerves and from the taxes that make the grasshopper a burden and mourners go about the streets. It will add to the glory of youth and to the grandeur of age. In it you can hear a cannon roar to save a little child and see 10,000,000 men leap forward to die that others may truly live. It is preferred stock in the Gem of the Ocean. It is star dust from Old Glory. It is the soul of the Red, White and Blue. It is the happiness of all lands, the safety of all seas, the fadeless glory of all skies—a United States Liberty bond! Buy one and live forever in your own esteem and in the love and gratitude of the world you helped to save.

T. W. BICKETT, Governor.

No Excuse for Failure to Enlist Either in Army or in Bonds.

[Special Dispatch to Manufacturers Record.]

Trenton, N. J., October 22.

No money-earning American not in the military service has any excuse for failure to enlist in the Liberty loan army when he witnesses the example of thousands of our soldier boys at the various cantonments investing in Liberty loan bonds to the extent of millions of dollars.

Our brave sons called to the colors have already dedicated their lives to the cause of democracy, and yet they are also ready and willing to set apart some of their modest monthly wage to help finance the war.

It seems to me that those not wearing the uniform are thus called upon to make every sacrifice and forego every luxury, no matter what it may be, in order to invest in at least one of these bonds.

The result will be twofold—strengthening democracy's cause on the firing line and teaching the American people a practical lesson in thrift.

WALTER E. EDGE, Governor.

Membership in Society of Liberty Bond Buyers Will Be a Coveted Honor.

[Special Dispatch to Manufacturers Record.]

Santa Fe, N. Mex., October 23.

Each United States citizen should purchase a Liberty bond. To do so is to enlist as a soldier in the war for world liberty. From a practical business point of view, it is a high-grade investment. From an international, patriotic point of view, it is to serve humanity. When this world war for world freedom is won, as it doubtless will be, "the Society of Liberty Bond Buyers" will be second only to that of those who bore arms in actual battle.

W. E. LINDSLEY, Governor.

Bond Slacker as Bad as Conscript Who Runs Away.

[Special Dispatch to Manufacturers Record.]

Albany, N. Y., October 23.

In the State of New York 122,000 men have already enlisted in the military forces of the nation, prepared to give to the cause to which our land is committed the last full measure of devotion. God grant that the sacrifice may not be necessary. But if it shall be, we know that they will not be found wanting.

Can it be possible that we who stay at home, enjoying the security that is ours, safe from exposure and hardships or personal danger, are going to be found wanting when called upon merely to loan our means to the promotion of the cause for which others are ready to give their lives?

The call comes to us to invest in Liberty Bonds. We are not even asked to give, but to make a financial investment—the most secure that can be made in the United States—with the absolute assurance of a reasonable profit thereon.

The war must go on, must be fought to a complete and final victory, that democracy may be safe in the world. The Government must supply every essential that we may do our part in the prosecution of the war. An American citizen who refuses to help by loaning to the Government in its time of need that which he can safely spare is as recreant to his duty and as truly a slacker as is the conscript who runs away.

CHAS. S. WHITMAN, Governor.

Money Slackers Deserve Less Respect Than Men Afraid.

[Special Dispatch to Manufacturers Record.]

Columbus, O., October 22.

Those who cannot give their lives may loan their dollars to their country in the world-wide fight for democracy. Those who have given sons will aid in their protection by subscribing for Liberty Bonds with which the Government may finance the war, directed to an early peace.

The money slacker is deserving of less respect than the man in whom a natural fear causes hesitancy in the offer of his life. It is the duty of everyone to do his bit, morally, physically and financially.

JAMES M. COX, Governor.

American Citizens Will No More Surrender Than Will American Soldiers.

[Special Dispatch to Manufacturers Record.]

Oklahoma City, Okla., October 22.

I can no more conceive of American citizens failing to oversubscribe a second issue of the Liberty Loan than I can conceive of American troops laying down their arms and surrendering after receiving a command from their officers to charge the enemy.

R. T. WILLIAMS, Governor.

Oregon Expected to Oversubscribe Its Quota.

[Special Dispatch to Manufacturers Record.]

Salem, Ore., October 22.

It is unthinkable that this country should fail with its second Liberty Loan within six months after the declaration of war when European nations have financed many loans during three years of struggle. At this perilous time we owe American soldiers loyal, full-hearted support, that their efficiency may be guaranteed and victory brought nearer. I feel certain that the State of Oregon will again demonstrate its leadership in patriotic matters by oversubscribing its quota. We must win.

JAMES WITHERCOMBE, Governor.

A Liberty Bond a Certificate of Honor.

[Special Dispatch to Manufacturers Record.]

Austin, Tex., October 23.

A Liberty bond is a certificate of honor and the best investment on earth. When it comes to military service all cannot serve, but the opportunity is given to every person in the United States when it comes to buying a Liberty bond. Those who buy Liberty bonds show their faith in the future of our nation and show their love of country. It takes confidence and patriotism both to win, and Liberty bond buyers, therefore, come second only to the soldiers at the front in performing that service which is necessary to victory. Anyone who fails in this respect is a slacker beyond dispute.

W. P. HOBBS, Governor.

A Solemn Duty No One Can Shirk.

[Special Dispatch to Manufacturers Record.]

Charleston, W. Va., October 22.

Each American citizen owes it as a personal public duty to subscribe to the Liberty Loan, because it is within the range of possibility, if the Government is not fully supported in this crisis by the citizens of the republic, that later on each and every citizen might be called upon to pay tribute to a foreign nation. So it is a duty not only personal to every citizen, but of vital importance to every citizen, affecting his own future and that of those dear to him. Certainly no better or more profitable investment could be made by anyone than in a Liberty Bond, a promise to pay by a Government of which each man, woman and child is a component part, and if anyone has no faith in his own credit he has fallen low indeed. Furthermore, subscribing to the Liberty Loan encourages thrift among all classes. But aside from every other consideration and every other motive, patriotism should impel all real American citizens to unite in seeing that the Liberty Loan is oversubscribed. It is inconceivable that the people of the country will fail to measure up to the standard set for them by the men who have given and are ready to give their lives. It is so solemn a duty no one can shirk it.

JOHN J. CORNWELL, Governor.

Man Power Must Be Backed by Dollar Power.

[Special Dispatch to Manufacturers Record.]

Cheyenne, Wyo., October 22.

Every Liberty Bond sold increases for Germany the shattering shock of the second American "shot heard around the world"—President Wilson's splendidly inspired statement of America's war aims. We have the man power to win this without allies, if necessary, but our man power must be backed by our dollar power. Every person in America who has the interests of the nation and of humanity at heart and who by any stretch of resources possibly may do so, should subscribe to the second Liberty Bond issue.

FRANK L. HOUS, Acting Governor.

All Must Contribute According to Their Means

[Special Dispatch to Manufacturers Record.]

Montpelier, Vt., October 23.

Each of us has a part to do in bringing this war to an early and successful end. The time is here when he who has a son must give him for his country, when he who has money must at least loan it to his country and give both freely if required. The successful termination of this great struggle can only be brought about by self-denial. Let all men and women deny themselves, that they may contribute according to their means.

HORACE F. GRAHAM, Governor.

Success of Loan Not a Matter for Argument.

[Special Dispatch to Manufacturers Record.]

Richmond, Va., October 23.

Nothing can be clearer than the fact that we must pay now to win the war or pay an hundredfold later on in indemnities and loss of trade. We must pay to win the war now or pay later in national humiliation, in defeat, in the blood of our men, in the degradation of our women and the maiming of our children. The immediate success of the Liberty Loan is not a matter for argument.

HENRY C. STUART, Governor.

Must Buy Liberty Bonds to Extent of Our Ability.

[Special Dispatch to Manufacturers Record.]

Atlanta, Ga., October 22.

Patriotism and business stability demand that every American buy Liberty Bonds to the extent of his ability. Failure to fully support our Government at this time would lead to economical distress here and military disaster abroad. To do less than is needed would be to discredit ourselves and disgrace our country.

ASA G. CANDLER, Mayor.

Will You Fight the Fire and Save Yourself?

Editor Manufacturers Record:

Enterprise, Miss., October 20.

A little over a quarter of a century ago, when I was ranching on the plains south of Calgary, we depended on the bunch grass, which cured almost to hay, for our winter feed. We did not mind a prairie fire in the spring, but in the fall a fire would have meant disaster and starvation for our stock.

So the rule read, "Drop everything to fight fire."

We did not wait for George to put it out. Every man jumped on a horse and rode "hell for leather" for the smoke.

Now, the situation today is analogous.

It is not a question of the Liberty Loan being a good investment. It is.

We, each and all of us, had some wealthy grandmother or avuncular relative who died, and, dying, left to us the whole of these United States to make a living in.

But now a fire is headed this way, and traveling fast. It is up to us to put it out, or our range is gone.

Afterwards we can argue as to whether we have done more or less than George or if we have done a little more or less than our share; at present, the thing is for every man to put every dollar he can into the loans and get the fire out.

H. A. MCGUSTY.

THOUSANDS OF AMERICANS WANTED TO BUILD ROADS IN FRANCE.

EXPERIENCED men at road building, bridge construction, quarrying, etc., are wanted for an engineers' regiment of the National Army for service in France. Several advertisements on other pages of the MANUFACTURERS RECORD announce particulars concerning this unusual opportunity for men

of ability and enterprise. Ten thousand five hundred men able to build highways is the total now desired, comprising engineers, road contractors, superintendents, foremen, operators of contractors' machinery, steam shovels, road rollers, motor trucks, tractors, pumps, etc. Men who wish to get into this work can learn particulars by communicating with Colonel Johnston, commanding officer of the Twenty-third Engineers, National Army, 1419 F street, Washington, D. C. In proximity to the advertisements in this issue is printed a form which applicants for service can forward to headquarters as a preliminary to enlistment.

It is noted especially that there are a number of good openings for experienced highway foremen and master mechanics. Quick action is urged, being absolutely necessary under the circumstances. Thus is the United States fast pushing forward its work abroad for the preservation of liberty throughout the world. The American Bridge Co., the Virginia Bridge and Iron Works, the Allis-Chalmers Manufacturing Co., the Austin Manufacturing Co., the Pittsburgh-Des Moines Steel Co., etc., are all using their advertising space in this issue in urging this appeal to the brain and brawn of our country in its hour of need.

GLAD SALVATION'S FREE.

There are some church members who sing with exceeding unction, "I am glad salvation's free," and to prove that it is free they never contribute toward church expenses. Honest men have not very much respect for that kind of religion which voices itself wholly in singing, "I am glad salvation is free," and stop there. You are glad that this nation is a land of the free and the home of the brave, but are you doing your best to prove how glad you are by subscribing to Liberty Loan Bonds? Safety from eternal damnation of the nation by German barbarism is not free. Your money to the utmost extent of your ability must pay the price.

SPREAD THE FACTS EVERYWHERE.

If your soul is stirred by the awful realities of Germany's barbarism as published from week to week in the Manufacturers Record, pass your copy on to others that those who are not subscribers may learn the fearful realities against which our nation is fighting. Let no single copy be wasted. Pass every copy on to some one else and urge them to send it on to others, that in every home the story as given in every issue of what this war means to every man, woman and child in this and in every other land may be fully understood. Not until then will our nation awake. You can help in this way to win the war.

HOW GERMANS IN AMERICA WAR AGAINST AMERICA

If we would understand the seriousness of the German spy system, which it is now admitted has put its agents even into the Army and Navy of the United States, it is only necessary to make a study of what the daily papers are allowed to know; and much goes on, of course, which is never published. Typical of this situation are the following headlines and items duplicated as nearly as our type makes possible, which could be extended to fill every page of every issue of the Manufacturers Record.

Spies Infest Army War College Admits

Secret Report to General Staff Reveals Serious Menace.

Dunbar's Arrest Shows Navy Affected

Ex-Ensign, Native of Germany, Got in Through Reserve System.

DARING GERMAN SPY

He Tried to Worm His Way Into the United States Secret Service.

The extreme daring with which Germany's master-spy system is endeavoring to ferret out American army and navy secrets for use against the United States forces in the war against the Berlin Government has been emphasized by several significant incidents just developed by American intelligence officers.

Germans Learned Russian Secrets at Orgies Here

Berlin's Agents at Revels on Ships Off Brooklyn and in Gravesend Bay.

Wine and Women Vied In Loosening Tongues

Large Consignments of Liquor Smuggled Out on Munitions Vessels.

5 Alien Enemies Seized, One is Son Of German General

United States Secret Service agents yesterday rounded up five enemy aliens in this city, who were interned last night on Ellis Island. Three of these Germans were arrested for being on the water front, where they had excellent opportunities for spying on shipping.

Native of Germany Held For False Registration

New Orleans, October 16.—Harry H. Clifford, who admits he is a native of Dantzig, Germany, was arrested here today by Department of Justice agents on a charge of falsely registering with the United States Shipping Commissioner as an American citizen.

Enemy Camouflage

George Sylvester Viereck, friend and associate of German spies and receiver of German gold from German spy paymasters, is still working on behalf of Germany. His pro-German organ, once called "The Fatherland," now camouflages under the name of "Viereck's The American Weekly." It made its appearance four days after the Kaiser plunged the world into war.

In the latest issue of this pro-German sheet, Viereck, who has been formally accused of having had foreknowledge of the plot to sink the Lusitania and murder American citizens, paints the Kaiser as an idealist, rushes to the rescue of William Randolph Hearst, devotes two pages to a defense of Senator La Follette, plays the pro-German game of attacking Senator Root, member of the American Mission to Russia, and takes a fling at the United States and our allies for declaring an embargo against neutrals.

ADVISED UPRISING AGAINST COUNTRY

Native of Germany Made Remark to Soldier and Is Locked Up.

GERMAN GOLD KEEPS PEACE CLAMOR GOING

Berlin Sending Millions Into Neutral Countries to Influence Press and Pay Hirelings.

SPIES IN U. S. CONSULATES

Alleged German-Americans, Employed as Clerks, Sought Information for Enemy

TO MOULD NEUTRAL OPINION

Germany Said to Have Lavished Millions on Work; Money Poured Into Mexico and China.

FIRING SQUAD EXPECTED FOR GERMAN SPIES

Death Penalty to Be Asked by the Prosecution for W. J. Dunbar.

ANOTHER IN THE TOILS

Mysterious Personage Nabbed by Secret Service—Big Plot Nipped.

BANKERS INTERNED ON ELLIS ISLAND

George Von Seebeck and Fritz Kuhn Held by Federal Authorities.

ONE FRIEND OF DUNBAR

ANOTHER BOMB PLOT EXPOSED

Scandinavian Arrested While Trying to Bribe Way on Board United States Transport.

AT WORK TO DEFEAT LOAN

Pro-German Propaganda Charged by Washington Officials.

EFFORTS MADE TO INFLUENCE BANKS

Purchasers Discouraged From Buying and Poster Space Refused.

GERMANS PLANTING DISCONTENT IN U. S.

Government Informed of Insidious Efforts; Roundup of Aliens Pushed.

ON TRAIL OF LOAN OPPONENTS

Minor Officials Believed to Have Given Out Stories Injurious to Country.

SPIES CRIPPLE TWO BIG TRANSPORTS

Forced to Put Back to New York After Starting for Europe.

For the last three years we have been urging upon the Government a more drastic suppression of the known activities of pro-Germans and of German spies who infest our whole land, and now the country finds that spies have wormed their way into the Army, into the Navy, into banking and financial circles and elsewhere, bent on bringing death to American soldiers and sailors and destruction to our country; but we still seem to move with leaden feet in taking such action as would strike terror into the hearts of every pro-German. Short terms of imprisonment or internment in comfortable quarters are not enough to deter their activities. Vigorous, aggressive action, is needed to sweep before it every thing which aids Germany in this country, by sowing the seeds of discord, by Germanized labor claiming to seek unionism when it is only being misled through ignorance into becoming Germanized, by the quiet innuendo dropped on the ear, in the barber shop, in the store or wherever the poisoned word can be sown with the hope that it may bring forth a harvest of death to the men of our Army and Navy.

CONGRESSMEN AS TO WHOM "SLACKER" AND "GRAFTER" ARE INADEQUATE TERMS.

THE STANDARD PAINT CO.,

Manufacturers of
Roofings, Insulating Papers, Paints and Waterproofings,
New York.

E. J. Conroy, Charlotte, N. C.

Charlotte, N. C., October 16.

Editor *Manufacturers' Record*:

Enclosed please find check to renew my subscription to the best paper in America today. If you will continue to hit straight out from the shoulder where the hitting is most deserved, I for one will be "delighted."

I would like to inquire if it is true that in the recent taxation bill that passed Congress, wherein they placed a tax on all individuals that had incomes from \$1000 up, that the Congressmen held themselves exempt from this tax, and if so, what is your opinion regarding same. If this is true it strikes me that it would be one of the most unpatriotic acts ever committed. May I have an expression from you on this subject?

E. J. CONROY.

Mr. Conroy is correct as to Congressmen being exempt from this and all other income tax on their salaries, but the *MANUFACTURERS' RECORD's* command of the English language is not at all equal to expressing its views on the subject as requested. Moreover, if we tried to do so there might be spontaneous combustion in the mails.

The New York Times recently printed an alleged defense by Congressman Kitchin of this excess taxation on salaries, in which Mr. Kitchin was quoted as saying:

"That excess profits tax of 8 per cent. on incomes of individuals, mind you, is a tax on excess profits. It is a tax on money derived from a business. The Government is not a business institution, and no salary therefore is a business income. Officials do not work for profit. Personally, I am in Congress at a loss."

Accepting this statement as correct, the *MANUFACTURERS' RECORD* would like to have the opportunity of raising a sufficient fund to very greatly increase Mr. Kitchin's income if by doing so he could be persuaded to leave Congress, where he is a national liability. Of course, nine-tenths of any fund thus spent on Mr. Kitchin would necessarily be wasted money; nevertheless, we believe that there are many people in this country whose patriotism would be sufficient to make them feel willing, in the interest of the nation's welfare, to contribute toward keeping Mr. Kitchin at home, and not people who want to escape taxation, but people who want to see a decent administration by Congress, unvexed by the narrow, petty sectionalism of which Congressman Kitchin has been such an able exponent.

Any man in Congress who can make the statement credited to him, that the Government is not a business and that no salary paid by the Government is a business income, and that officials do not work for profits, is either—well, possibly the word or words better be left unsaid. At least, it may be said that, accepting the statement as the belief of Mr. Kitchin, it would indicate a mental vacuity which would explain many of his acts.

The Congressmen who thus exempt themselves from taxation are very well described by the New York World, when it says that any man in Congress who thus exempts himself "is a slacker," while "some harsher critics might suspect him of being a grafter." These are very mild terms, even taking them at their full meaning, to apply to such men.

It is interesting to note in this connection that members of Congress in Brazil do not think as Congressman Kitchin, for the New York Herald says:

By way of emphasizing the contrast, it should be called to the attention of members of the Congress of the United States that the members of the Congress of Brazil have not hesitated to impose an income tax upon official salaries, including their own.

THE Valdosta Times tells a story about a huge snake 15 to 30 feet long seen near Warrior Creek not far from Moultrie, and it bellows like a bull. Think of that! Georgia is a "dry" State, too.

AN INSPIRING EXAMPLE OF WHAT COUNTRY DISTRICTS CAN DO TO HELP WIN THE WAR.

THE *MANUFACTURERS' RECORD* recently published an interesting letter from Mrs. Ina Chase Steele Colson of Herndon, Va., written to her uncle, Charles Smith of New York, in which, in the familiarity of personal correspondence, she dealt with some of the problems which existed two months ago in awakening the people of the country districts to a realization of what war means.

Although this letter was not intended for publication, Mr. Smith sent it to the *MANUFACTURERS' RECORD*, giving us the privilege of using it as an interesting sidelight upon the need of developing the latent patriotism of the country.

We are now in receipt of a letter from Mrs. Colson, in which she presents many interesting facts in regard to how that section of Virginia has taken hold of the war situation.

In commenting on her letter to her uncle, which we published, we suggested that in every district in the country some man or woman must come to the front and take the lead in arousing the latent possibilities of the community for patriotic work. What the Herndon community is doing in this respect is interestingly told in the following letter from Mrs. Colson:

It would be very kind if you would permit me to add a little explanation of my two-months-old letter, which rather startled me, in that I had not before realized how conditions had changed. You see I was merely thanking my uncle for some money and itemizing its expenditure, and also thanking him for first-hand information from all the countries which I had gathered in his home and recounting to him the use I had made of it. Then, too, I wrote rather in reply to a discussion there as to whether propaganda in regard to the war was necessary in this country.

Having come directly from a circle which had consecrated "all that they had and all that they were" since August, 1914, I was horrified to find such bad understanding of the times—the half of which I did not say—after our own country had acknowledged the state of war—and in Virginia, where I had looked for all that seemed to me fair to expect from the traditions which had made her glory both at home and abroad. I was too impatient to realize that this township was not unique in its attitude, but merely paying its share of the penalty we must pay for having looked so long upon disaster in guilty safety. Nor did I properly allow for the corruption of public opinion by the poison of German propaganda—\$3,000,000 a week expended in this country for the purpose, was it not?—which so criminally little has been done to antidote.

And, most important of all, as the extracts from my letter did not indicate, there was a sufficient number of people—only they had been more becomingly silent—to communicate the realization that it is the same cause in which Virginia has ever so triumphantly led, the same call of Liberty.

And to this the people rose and did these things in rare harmony and unity:

They founded a branch of the Fairfax War Aid—an idea worthy of adoption by every county in the States—for which they are working zealously, one having just given a registered calf which brought in \$102 at the county fair. For this organization about 50 women are knitting outfits for the boys of Fairfax, for whom, also, they have made and will fill a profusion of really beautiful comfort bags.

They have their Navy League unit, created their own wool fund and made many complete outfits for the battleships Virginia and Texas.

Being an agricultural district, their food conservation has been exemplary and really important, as service in this line has been passionate.

They have already contributed nearly half of the 500 jars of sweets to Le Bien E'Tre du Blesse—county gift to do life-saving work in the war zone of France.

Their library has acquired a collection of excellent writings on the war in pamphlet form, which will be distributed with the circulating books, so that households, of no matter how limited leisure, may have the opportunity of being enriched by the best thought.

The various Red Cross activities have continued, this town having given generously to the ambulance and motor-cycle sent by the county to France.

There have been a number of volunteers, some commissioned officers.

So, if a fragment like this can so find itself in two months, Virginia may be trusted as of old—may she not?—to "carry on!"

The things which are being done in that community, as so interestingly told by Mrs. Colson, should be done in every village and county community in the land. In this way millions could be interested in

studying our fearful problems and mobilizing the nation's moral, mental and financial forces to meet them. The circulating library of war literature is especially interesting, but the managers need to be aware of pro-German activities in seeking, under the guise of friendship, to get pro-German literature circulated in this way.

DO IT NOW.

Figure up how much you are certain to contribute during the next twelve or fourteen months to church and charitable work, whether for current expenses or endowment, and then buy Liberty Bonds to this amount and pay your contributions in these bonds. Churches and charitable organizations can use Liberty Bonds as cash. Here is an opportunity to vastly extend the sale of Liberty Bonds. Do it now.

BERNSTORFF A TYPICAL GERMAN OF THIS AGE.

IN commenting on the statement published in a recent issue of *Suddeutsche Konservative Korrespondenz* by its editor-in-chief, Adam Roder, to the effect that the aim of the Pan-Germans is to drive Christianity out of Germany and establish a peculiar, made-in-Germany religion, in which he accused the Pan-Germans of bitter hatred to "Semetic Christianity," the Christian Evangelist of St. Louis refers to the open confession of atheism and lack of moral character made by Count Bernstorff at the time he left this country. Commenting on this statement, the Christian Evangelist said:

But this Germany gave up spirituality for materialism through influences that may be distinctly traced, and the result is the present-day Germany, whose leadership is lodged in such men as Count Bernstorff, the recent Ambassador.

That way may be judged from some of his utterances given in an interview to a New York daily as he was about to leave America. His relations to God and religion are described as follows:

"And now what is his attitude to the mysteries? What does Count Bernstorff think of religion and the future of humanity? He professes himself a cynic and unbeliever."

"I know this world," he says, "and don't trouble about any other."

"He frankly dislikes churches and doubts whether their influence is good. When I asked him whether he had been brought up a Puritan, he burst into a great laugh."

"In any case I've got over it completely," he cried. "I think the man a fool who denies himself any good thing in this life, unless for health's sake or some dominant reason."

"But he believes in humanity, in the slow development of man in time, and hopes that our growth is toward the good and the beautiful. But it is only a hope and soon dismissed as vague, for his mind is also given to practical things. He does not lose himself willingly in transcendental imaginings. He professes to be a student of history. 'History is the Bible of diplomats,' he says."

"I think man should do what is right, but I am very lenient, especially toward sins of the flesh when the temptation is great and the results unimportant."

One almost blushes as he reads this and knows that it is a stain so deep the tears of no recording angel can blot it out. Tears there are—tears of men and angels—but this kind can only be overcome by the crash and ruin of its own house, whose ruin has been surely effected by these latter-day Samsons made blind by their own nephitic materialism.

This is a warning. The nation or individual that forgets God has only trouble and dishonor awaiting it. It will be turned into hell—the hell of its own creating. It is safer and saner to kiss the lips of a blazing cannon than to make light of the moral law.

Read the statements quoted from Bernstorff and think of an Ambassador from one nation to another who says "a man is a fool who denies himself any good thing in this life," and who says he is "very lenient, especially toward the sins of the flesh." And remember, this man was Germany's Ambassador, and is a type of German moral degeneracy.

LA FOLLETTE—THE AID OF THE HOHENZOLLERNS AND ENEMY OF BOTH GERMAN AND AMERICAN LIBERTY.

THE following letter from a former neighbor, and father of Paul Cody Bentley, who has fallen on our war front, explains itself:

Chicago, Ill., October 3.

Hon. Robert M. La Follette,
The Senate,

Washington, D. C.:

My Dear Sir—You were born in Sun Prairie township, while I was born in Albion township, a few miles away, about the same time. You may remember that we went to school together; you may remember a patriotic declamation you made, when in adolescence, at a school picnic. You may remember when Edwin Booth came to Madison, when you were an undergraduate, and he played "Macbeth," and also played Iago in "Othello." You may remember in your college ideals how you determined to become an actor—the greatest in the world. You may remember that as an undergraduate you wrote an oration on Macbeth and Iago, and how they, in your sentence, became your heroes; you may remember how your oration won the university prize; how it afterward won the prize over Beloit, Ripon and Milton; how you were sent to St. Louis, as I recall, and you won the prize in the intercollegiate oratorical contest over all the institutions of learning in the Central States; you may remember how you came back and were graduated with honors, and immediately nominated for county attorney of Dane county, Wisconsin, although you were scarcely more than a mere boy and had never studied law. You may remember how you were triumphantly elected on your oratorical supremacy; you will remember how you entered our law class as a post-graduate, and attended a few times, and were, as I think, graduated. You will remember how the people of Wisconsin treated you as a boy hero, and how many, including Senator Sawyer, became your patrons and helped you to high places; you will remember how the Elements, personified as the Witches, hailed you as the Thane of Cawdor, and how you sacrificed your patrons to your ambitions. No doubt their ghosts pass your histrionic vision.

A poor boy, made mad by his stage associations, martyred Lincoln because he thought the President a tyrant. Can it be possible that you, with all of your professions and experience, are now seeking to martyr America as a tyrant for the Hohenzollerns? What did Macbeth, or Iago, or J. Wilkes Booth ever do to make the world safe for parliamentarism?

Through my son I have made the supreme sacrifice. He sprang from the same sunlit openings of Wisconsin as you. He was a college boy. His hero was Venetozos, the Greek rebel against the Hohenzollerns. His thesis was that, under present methods of transportation, the world is not big enough to now admit of the two forms of government, nor small enough to be controlled by a hereditary cult of robber barons, and that William should be hung and thus give sanction to international law. While I paid his expenses to the military training camps of 1915 and 1916, and for a unit of military training in Harvard, in April I objected to his going in advance of his country's call; but his cousin, a son of Henry Hoffmaster, one of the German Republicans of 1848, gave him \$100 and saw him off, and told him he was fighting for the liberty of the German people also. I wonder which of you two, or any of the others up there who will fall, will be written first in the history of Dane county? He was only one of some 2200 others, educated in first principles, to go to the front. All of them and others were inspired with the same ideals in advance of their country's call. He realized that the business of the United States is war, and that war is the business of every individual. I, in particular, realize since his fall that war is my business.

If you were a Senator in Germany, and doing the same for America as you are doing for the Hohenzollerns, you would face the firing squad. You say you are for free speech. Is free speech a virtue in battle? If you, as a Senator, have a license for free speech after war is declared, everyone believing in an hereditary imperialistic form of government has the constitutional right, with impunity, to debate for the purpose of defeating America in this war, and so make innumerable sacrifices in vain, and fasten upon the world a dynasty which, by reason of its concentration of power, will rule and be the chief influence in turmoil until, by revolution, the final plan of the First Divine Master prevails.

For thousands of years this contest between the Beast and Spirit has waged, because in the Divine plan individual free election was incorporated. As all the world is now at war over the two systems of government, it is the hour. All who are for the Beast must face the firing squad now.

It is the hour! One and one-half billion people are arraigned in serried battle front against William and his system. A hundred and fifty million, many by force, are on his side. The first have just arisen from the table, or been awakened from sleep. The opposing forces have secretly subjected all their accumulations and culture and extended their propaganda for 40 years in preparation for this contest, and expected to win in 40 days, while those who awoke, or arose from the

table in hurried alarm, have defended parliamentary institutions to the extent of hundreds of billions of accumulations and five millions of lives to the fourth year, and now have William begging for breath and Carl for peace, and yet you, as a tragedian and as a politician, willing to throw your country in the breach to save yourself, would defeat the parliamentary idea. It was the only booking role open to you.

One of the first principles of American institutions is jealousy of power. Our first patriots knew that its protraction is abused. Yet we, in war, place in the hands of our executive more real power than rests with an imperial sovereign; but our executive is accountable to the people at the end of his term. But you, like a dog snapping at the heels of the General, would make him accountable to you and your ambitions NOW.

Many Americans have died for ideals—a few now, and great numbers will in the future. It sounds well to cry free speech at certain times, but this cry is inappropriate, misleads the multitude and causes deaths as our gigantic war machine proceeds, and encourages the "Soap Box" in battle. No speech is now appropriate except that which leads to parliamentary government and international law, with the sanction that governing classes who violate it shall be executed as international criminals.

Senator La Follette, he who is enemy to my country is enemy to me. Every American says: "As long as you, in war, fight our Commander-in-Chief, you fight me."

You are my enemy and I am

Yours,

FRED. WM. BENTLEY.

(Published by permission by a friend of Paul Cody Bentley.)

The foregoing comes to us from a reader in the West. What a picture it draws of La Follette, and how true is that closing line, "You are my enemy and I am yours." This letter was written by a man whose son died on a battlefield, a son in whom the spirit of civilization and humanity ran ahead of the humanity of our country. He was one of the men who got a glimpse of what this war in Europe meant, and he was ready to die, if need be, in a cause so holy as that to which he gave his life.

The nation halted and hesitated, but a few Divinely-inspired heroic souls offered their lives, possibly with the thought that in this way they might awaken our own nation.

La Follette and all of those who are working and co-operating with him are not only the enemy of such heroic souls, not only your enemy and my enemy, but the enemy of every soldier called forth by the nation; of every sailor who mans our ships; of every woman who would be saved from dishonor and ruin, and of every baby. For German success would mean the destruction of all of these things, the things without which life would not be worth living. Better that every man and woman on earth should pass away than that barbarism and atheism, as voiced through the hellish activities of Germany, should dominate the world. A world uninhabited would be better than a world inhabited only by those controlled by Germany.

La Follette and those who co-operate with him are aiding Germany. Their work helps to stab in the back with poisoned stilettos our men, and to destroy the nation itself. They are fighting with poisoned bullets. They are fighting humanity, civilization and God Himself, and if the United States Senate is too cowardly to expel them without question when the Senate again convenes, then the United States Senate will itself be a co-worker with hell. But expulsion is not enough. These men are in effect traitors, and if they cannot be condemned by the law and placed before the firing squad, where they belong, surely some way should be found to imprison them, to disgrace them to such an extent that no decent man or woman, no woman who regards her honor, no man who loves womanhood or babies, would ever again permit one of these degenerate co-workers with Satan to speak to him or to her. These men are helping to murder the sons of the men and women of this country.

DO YOU SING WITH THE POCKETBOOK?

It is all very well to sing, "My country, 'tis of thee, sweet land of liberty, of thee I sing," but have you backed your singing with dollars in investment in Liberty Loan Bonds?

YOUR SUPREME OPPORTUNITY.

You fully intend to make contributions to the current expenses of the church with which you are connected, to the Red Cross or to other charitable organizations, or to missionary activities. Perhaps you are thinking that as you have been financially blessed during this year and have accumulated some money, you should contemplate contributing some permanent endowment to religious, or educational or philanthropic activities. Your supreme opportunity is now here. Buy Liberty Bonds for any or all of these purposes, and pay all of your contributions to such organizations in Liberty Bonds. They can use them without difficulty. In this way you will have contributed to the success of the Liberty Bond Loan and helped the nation and civilization in doing this, and at the same time you will not be lessening in any way your contributions to religious or philanthropic work. Indeed, the very thought of doing double duty may tempt you to do larger things and to contribute more than you otherwise would contribute in cash. Act now, tomorrow may be too late.

DOGS DESTROY 40 SHEEP.

EDW. J. MERSHON of the Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa., in a recent letter to the MANUFACTURERS RECORD, enclosed the following news item clipped from the Brockport Republic of Brockport, Monroe county, New York:

Fred Waldrow of Union Springs had 30 of his flock of sheep killed by dogs last week, and 10 of the remainder of the flock were so badly mangled that they had to be put out of existence.

Commenting on this Mr. Mershon said that "such news items are common in local papers throughout this section, and we are heartily in favor with your efforts to remedy this condition."

The Vicksburg (Miss.) Herald, in suggesting that sheep should be raised on the cut-over lands of the South, where grazing is good for nine or ten months of the year, says:

Sheep multiply rapidly, and, except for protection from dogs, require little or no attention.

If the newspapers of the whole country would give much more publicity to the attacks on sheep by dogs, probably all sections would find "such news items common in local papers," and thus in this way the general public would be brought to a realization of the serious menace dogs are to the sheep industry, and to the vast amount of actual damage they have done, and of the still greater harm this has had in its effect upon the willingness of farmers to raise sheep.

The more dogs we have, the less the number of sheep and the less food for millions of starving people.

The Galveston Daily News, in its fight for the sheep industry, says:

One of the weaknesses of the dog fanciers is that they assume all dogs to be Fidoes. Few dogs are, in fact, cute little darlings. Most of them are roving, insatiable, voracious, disease-breeding animals, dangerous to human life and a constant menace to vested rights. Any condition which compels the abandonment of one of the most ancient and profitable agricultural avocations, that of sheep-growing, is not only a hardship to the entire farming interests, but a genuine calamity to the country as a whole. The sheep is an invaluable animal becoming extinct, whereas the dog is a worthless animal, in the main, which is endured and defended purely upon shallow sentimental grounds.

WHY A BREWER DISCONTINUES HIS SUBSCRIPTION.

Geo. Brehm & Son,
Brehm's Lane.

Baltimore, October 16.

Manufacturers Record,

Baltimore, Md.:

Dear Sirs—I have your favor of the 11th inst., giving the information regarding my subscription to the MANUFACTURERS RECORD.

I wish to reply that I wish same discontinued, as I own the firm of Geo. Brehm & Son in the brewing business, therefore cannot consistently support a paper (italics ours) edited by such a rank prohibitionist as he is; therefore, must decline any further business in your behalf.

You will find enclosed a check for \$1.34, being amount of accrued indebtedness on account of the MANUFACTURERS RECORD up to this date.

Very truly yours,

H. A. BREHM.

And so Mr. Brehm has been laboring under the belief that because he subscribes to the MANUFACTURERS RECORD he was contributing to its "support."

We have been under the impression that our subscribers, who pay \$4 a year for that which costs us \$10 a year to furnish, were getting full value in return. We have never asked any man on earth to "support" the MANUFACTURERS RECORD by subscriptions or by advertising, and certainly there has never been a time in the history of the MANUFACTURERS RECORD when it would be willing to accept a subscription from a brewer or distiller under the impression that he was aiding or "supporting" this paper.

From the day the MANUFACTURERS RECORD was established, it has never accepted a whiskey or beer advertisement, and we look back over the 35 years of its life with satisfaction that it has never contributed to the advancement of the brewery or the whiskey trade, and thus aided in the moral degradation of men caused by the liquor traffic.

If Mr. Brehm has been subscribing under the impression that he was doing it to support the paper and that he "cannot consistently support a paper edited by such a rank prohibitionist," he gives a fair indication of the amount of intelligence that exists in the minds of people who think that by subscribing or by advertising in it they can influence its policy.

As a matter of fact, however, we regret to lose Mr. Brehm as a subscriber, not that we want his money, for we have about as much use for liquor traffic money as we have for German money, but because if Mr. Brehm would conscientiously study the MANUFACTURERS RECORD from week to week he would get the opportunity of seeing that wherever his accursed business is driven out of a community the number of convicts is lessened, and this means increased happiness, increased prosperity for women and children; it means fewer convicts, fewer broken hearts, fewer wrecked and ruined lives, less use for jails and penitentiaries and almshouses. And perchance, the time might come when Mr. Brehm, through a study of these facts, would realize that he no longer wanted to be connected with an industry which produced drunkards and increased the number of convicts, an industry which filled the jails and penitentiaries with ruined men, and then perchance, having come to this conclusion, he might be ready to turn his own business abilities and his brewery into things which make for human happiness instead of human misery.

That is the only reason why we would care to have Mr. Brehm as a subscriber, and we would gladly contribute to this good work, not one subscription, but many, if by doing so we could convert Mr. Brehm into turning his brewery into some industry which would help to ennoble humanity and add to the world's happiness.

TOMORROW IS NOT YOURS.

Tomorrow never comes, for it is today when it gets here. Do not put off until tomorrow, which never comes, the subscription to Liberty Loans, which should be made today.

"GOTT MIT UNS."

By MAJOR W. E. P. FRENCH, U. S. A.

[Reprinted from the Washington Post.]

An iron cross that mocks the Christ,
A motto blasphemous of God,
A bird of prey whose lethal beak
Ensanguines air and sea and soil.

Stained with the reek of poisoned gas and blood
Shed by brave woman slain by Teuton guns,
Fouled with the sea assassins' slime and mud—
Emblem of bestial infamies of Huns.

Reeking with murder, arson, rape, soul-grime
Atila, curse of God, had blushed to plan,
Standard of mad king's cruelty and crime,
Banner thrice damned by man and son of man.

Wet with sad tears by child and woman shed,
Yellow with loathly deeds and black with shame,
Dim with the dust of countless slaughtered dead—
Ensign of mayhem, piracy, ill-fame.

Tainted by falsehood, treachery, chicanery,
Cankered with lust and greed—oh, loathly rag,
Dyed, warp and woof, dishonor's fadeless stain,
Hate-gangrened, fratricidal, world-cursed flag!
Fort Myer, Va., June 28, 1917.

NO "TONGUE-TIED" POCKET-BOOK NOW.

A man of some wealth and considerable ability, who had only recently joined a particular church, was called upon by the pastor to lead in prayer. The good man was extremely modest and timid, and being a little tongue-tied he stammered through the prayer. At the close of the service he said to the minister:

"Pastor, I wish you would not call on me in public because I am a little tongue-tied. But my pocketbook is not tongue-tied and is always open for your call."

The nation is calling to the pocket-books of every liberty-loving soul in the land. See that your pocketbook is open and not tongue-tied, now that the nation is calling you to buy Liberty Bonds.

A SHAME, A SHAME UPON AMERICA!

AT the great training camps there are hundreds of thousands of soldiers who have given up home, leaving all their loved ones and given up business and the opportunities for money making and are spending months in work which no day laborer in America would take at any pay. They are working day and night, living in wretched houses or tents, spending many hours in wet trenches, training from early morning till late at night, in order to prepare themselves for the great struggle in which they are offering their lives. And these men—these heroes—to whom the nation pays \$1 a day are vigorously working to buy and to place Liberty Bonds because they see that America is falling behind.

O shame! shame! that these men must be asked to contribute their lives and then some of the niggardly pay which the nation gives them, and all because millions of free men with fair to big incomes, living in fair comfort to abounding luxury, are slackers.

Are you willing that these men shall not only die for you, but take out of their meager pay a share with which to buy bonds to carry on the war because you have not done your part?

Are you among the burden shirkers, the "slackers" in the financial army of the nation?

May God save the nation from having financial slackers in this, earth's supremest hour!

THE "DOLLAR-A-YEAR MEN" IN WASHINGTON.

WE have not always agreed with all of the literature put out by the Republican Publicity Association through its Washington office, and have found it necessary at times to vigorously criticize some of it, but under date of October 7 the president of the association, Hon. Jonathan Bourne, Jr., pays a tribute to the business men who have left their own business interests and are giving themselves, body and soul, day and night, to the great task of helping the country in this war, which we most heartily endorse. These men will probably never receive adequate recognition; the credit which they should have from the nation for the magnificent work which they are doing may never come to them, because they are quietly and earnestly pursuing their work, having no political ambitions, and, indeed, no other ambition than to dedicate their lives to the great task in which they are engaged.

In the statement mentioned Mr. Bourne says:

Since the entrance of the United States into the war there has grown up a large body of men in the Government service who are becoming known as the "Dollar-a-Year Men." These are men with special qualifications who donate their services to the Government, but who, in order to place them legally and technically in the Government service, must be regularly employed at a stipulated salary, and the compensation is placed at a dollar a year.

Many of these men are of national and world-wide reputation for business ability. They have been accustomed for many years to the handling of large affairs, the direction of large business transactions and the supervision of the work of large numbers of men. They are not merely captains of industry; they are colonels and major-generals in the leadership of the great armies of American industry. They have been trained in the efficient school of experience.

It is much to the credit of these men that they have volunteered their service in the time of their country's need, especially since their private affairs demand their attention more urgently now than ever before. Partial abandonment of private business will mean financial loss in no small degree. They are laboring with no expectation of pecuniary profit, and little, if any, hope of such reward as fame can afford. Their names will be overlooked while credit is being accorded to other men of far less ability who were chosen for political reasons to fill Cabinet positions and to draw the salaries and share the honors.

DR. HILLIS HAD TO CANCEL ENGAGEMENTS TO SPEAK IN SOUTH, BUT WILL MAKE TRIP LATER.

WE are glad to be able to say that the Rev. Newell Dwight Hillis, whose wonderful speeches in regard to German atrocities as seen in his personal study of the situation in Belgium and France have aroused the nation, will be able a little later to make a tour through the South.

Dr. Hillis was scheduled to speak in the South all of this week, but the great strain of work through New England and the West, where he spoke 31 times in 21 days, jumping even to the far West in long trips, compelled him to take a rest. He, therefore, had to cancel his engagements for the South. He was in Baltimore on Monday last, the second time within a few weeks, and he spoke in the largest public hall in the city. It was crowded to its utmost capacity. While here he promised the MANUFACTURERS RECORD that after he had rested up fully he would go through the South and deliver at leading points his address on Germany and the great world war in which we are engaged.

No man or woman can listen to the awful story, presented quietly, calmly by Dr. Hillis, without having a new conception of the barbarism of Germany's warfare and the reasons back of it.

Communities desiring to hear Dr. Hillis in this proposed trip through the South should write direct to him in Brooklyn.

HAD it not been for a foreknowledge of coming atrocities, it is quite probable that Satan would have anticipated German methods by submerging the ark.—Washington Post.

Why slander Satan?

HONOR AWARDS FOR BRAVERY AND SELF-SACRIFICE.

WILLIAM T. HORNADAY, whose life-work as a zoologist is known the world over, especially his successful labors for the preservation of the buffalo, turns aside now part of the time from his duties as director of the Zoological Park of New York city to advance with intense energy a movement which he has inspired for the creation of adequate war medals, crosses and other insignia to be awarded to individuals in the army and navy, or to civilians, for special acts of heroism, heroic endeavor, or great sacrifice during the course of this or other wars. He directs attention, by means of a circular-letter addressed to all members of Congress, to the fact that the United States has only one war medal, the bestowal of which, he says, is comparatively slow and circuitous, whereas our allies, French and English, have several classes of decorations that inspire men to supreme effort and are much coveted, but men in our service who have won any of these decorations in foreign armies are prohibited by the United States army regulations from wearing them. This latter idea, he remarks, is unwarranted timidity, and then he proceeds as follows:

Every intelligent person must realize the great military value of war medals and crosses that are promptly bestowed on the field, before the act of heroism has grown cold and stale. The French Government shrewdly puts forth much thought and effort in rewarding gallant service that go beyond the regular duties of the soldier. At this moment a million Frenchmen are ready to risk their lives to the utmost for the Government whose generals, in the presence of the army, promptly pin upon the breast of the soldier the much-coveted *Croix de Guerre*. Why are we so crude and slow in such matters?

At frequent intervals we read, with thrills of pride, of the decoration by French generals of American air-men, physicians, nurses and ambulance men, and usually the decorations are bestowed so quickly after the event that our first news of the American exploit is merged in the news of the award.

Where is the British soldier who would not willingly risk almost certain destruction for the Government that bestows the world-renowned Victoria Cross "For Valor," and proud is the British soldier or sailor who finds printed after his name in the official lists the thrilling initials, "D. S. O."

To remedy this very apparent lack of proper honor insignia Mr. Hornaday suggests the passage of a bill by Congress creating a commission to provide such medals, crosses, etc., as may be necessary to fulfill the idea which he so strenuously advocates. This commission, he says, should be composed of the Secretary of State, the Secretary of War, the Secretary of the Navy, the president of the National Academy of Design, the Director of the United States Mint, and one distinguished citizen to be appointed by the President of the United States. The bill would also carry an appropriation of \$10,000, of which \$5000 would be for necessary expenses of the Honor Commission and \$5000 for the work of preparing dies and striking medals, etc., at the Mint.

This effort which Mr. Hornaday has inspired and is so urgently pushing toward success, in spite of discouragements encountered at the late session of Congress, merits earnest and hearty support by everyone. While we are proud in the realization that there are no more patriotic people than our own, it is also undeniable that a most desirable, enviable and friendly rivalry would be stimulated by the award of insignia for bravery on the field of battle. None need fear that the system would be abused, and it would be of tremendous effect as an inspiration to our troops.

HIGH WAGES AND FULL PRODUCTION.

ARTHUR GLEASON of England, in his book "Inside the British Isles," calls attention to some changes which are being wrought in Great Britain under war conditions. One of these refers to the value of higher wages in developing self-respect on the part of employees and better conditions of living. The MANUFACTURERS RECORD has always advocated high wages. It has claimed that low wages are a disadvantage to industry as well as to the employees. It has insisted that low wages in the South, instead of being an advantage, are

a distinct disadvantage, and that low wages are in the end the highest wages, measured by production.

Mr. Gleason, in his discussion of this subject and of the importance of the working people on the other hand learning the value of full production to the extent of their ability, says:

"There are two truths so plain that we wonder it required a hundred years to find them out. It is the war that has finally revealed them to our blind eyes. The first truth is that high wages give high productivity. A well-fed, self-respecting, healthy workman can do more work than an under-nourished, servile workman. If the employer wants a good product and plenty of it, he must pay a living wage. The second truth is that workmen must work efficiently if they wish high wages. If they cut down productivity there is no money to pay them. The war has smoked the workers out. Their secret processes which required hours to work have turned out as simple as building-blocks. It is public knowledge now, the time it takes to do a piece of factory work. For years the worker has been limiting his output. A manufacturer of marine engines states that where 13 rivets were turned out before the war, 70 are now being made by the same number of workers. The worker is making the same fight here that he made when he broke the first machines. The machines were robbing him of his living, he thought. Instead of that, they have given more men a better living."

HAS YOUR POCKETBOOK BEEN CONVERTED?

Some years ago a dear old minister was examining a candidate for admission into the church. The man had answered all the questions very satisfactorily to the minister and the deacons, but finally the preacher said:

"Brother, there is just one more question. Has your pocketbook been converted? If it has not, then I have not much faith in the conversion of your heart."

To every man professing to be an American, and loving liberty and womanhood and childhood, comes the question:

"Has your pocketbook been converted to the point that you will put your money into Liberty Loan Bonds?" If not, your patriotism, and your love of womanhood and childhood, have not gone very deep.

DOWN WITH IT!

HAVING no further use for the building, the town of Pelham has rented its guardhouse for \$1 a month. The slump in business is attributed to the bone-dry law, which has been blamed for many similar incidents.—Tifton (Ga.) Gazette.

And so one more jail is empty and an important public building thus becomes practically valueless, since, there being no convicts, there is no use for the jail. One by one, and with increasing rapidity, come reports from all parts of the country as to the steady decrease in the prosperity of the convict business. What a lamentable situation it is, that any industry should be so seriously destroyed as that which we now see taking place in the business of making convicts! Through the lessening of the number of convicts there is a decrease in work for the jailers, there is the lessened use for jails, and convicts are no longer obtainable to the same extent as formerly for road building, and road building must actually be done by honest laborers instead of by the convicts who had been sent, through the liquor traffic, into the jails and penitentiaries of the land.

Down with prohibition for its destructive influence upon the convict trade! Why should any business like that of the convict industry be so seriously upset by the wilful action of men who voted for prohibition? What right has the nation to lessen the number of convicts and to render jails valueless and to reduce the number of jailers?

THE BERNSTORFF DISCLOSURES.

SECRETARY LANSING appears to have just started in the work of exposing the activities of Bernstorff while located at Washington as Ambassador from Germany. It is possible that a skunk might have succeeded in secreting himself in Washington in a manner to avoid detection all that time, but how so sweet-scented an individual as Bernstorff is proving could have warded off suspicion from his presence is a hard matter to understand. He seems to have been paymaster for the Kaiser's American spy system and general manager of the bureau itself. It has now developed that Bernstorff was sabotage director-in-chief and general manager in the laying of plots for destruction of munitions factories, railroads and industrial plants in both the United States and Canada. He was a bold diplomatic buccancer, and the wonder is that he delayed in making his get-away from this country until the day that he was given orders to clear out. He must have had great confidence in the safeguards of secrecy he had established, relying upon the evident impossibility of a leak. The Government has discovered enough to have hung him, and yet the intimation is that worse is to be disclosed.—Charlotte (N. C.) Observer.

One of the sad things in connection with the whole war situation is that much of Bernstorff's misdoings was known in this country, and yet he was permitted to remain here. On the day that he openly advertised a warning to American people not to travel on the Lusitania he should have been kicked out of the country, and the kick should have been administered unceremoniously and with great vigor.

No one need be surprised that Bernstorff and his whole crowd grew more and more indifferent to American sentiment or to any possible American action, for Bernstorff knew that we knew many of the things that he was doing and he knew that we were not taking any action that was really meant to send him out of the country. We are now paying the penalty for our stupid leniency, and we have not waked up yet.

AS TO "TRUSTS" THEN AND NOW.

"**CURRENT TOPICS OF THE TOWN**," in Philadelphia Public Ledger, has the following:

A manufacturer connected with one of the biggest plants of its kind in the country told me the other day that the Government wanted one of its products, but wanted it in such enormous quantities and in such haste that it would have been impossible for any one plant to turn it out.

The manufacturer wanted to help the Government, so he called together the representatives of more than a dozen other large plants in the same line of business and explained the situation to them.

"We must agree on a price, a low price, so the Government can get what it needs."

All were competitors, but they came to the Government's assistance and agreed to make the product and deliver it for a price so low that there not only would be no excess profits to tax, but there was a strong belief that there would be no profits at all.

"This combination," remarked the manufacturer, "was directly in violation of the Sherman anti-trust law, and at any other time we might all be put in jail. But it was the only way."

Thus it is seen on every hand that combinations in business which formerly were reprobated are now winked at and must be permitted if the war is to be won.

The railroad pooling under Government direction is illegal, but it is producing results. Indeed, much of the nation's dealings with business interests is in direct violation of the nation's laws, but the Government is practically setting aside its own laws for the benefit of the public and thus proving that many of its laws are fundamentally wrong.

LIVES AND DOLLARS.

The Star-Spangled Banner will cease to wave over "the land of the free and the home of the brave" if American people do not rise up and back the Star-Spangled Banner with their dollars, while the soldiers are backing the Star-Spangled Banner with their lives.

THE BUILDING OF WOODEN SHIPS.

THERE have been some recent rumors that the wooden ship building program is in part to be abandoned. Fortunately for the country and for the world, this is not true. The wooden ship building program has not been abandoned. Wooden ship building will be vigorously and aggressively pushed. From time to time there may be some necessary modifications in the plans of ships, but established shipyards will be crowded with work, and new wooden shipyards may be necessary to help to carry on this campaign.

When the ships now under construction have been launched, other contracts, so we are advised, will be promptly let, and this is as it should be.

It is not possible for us to build enough ships, wooden and steel combined, to meet the needs of the hour. All that we can do by the utmost pressure upon the shipyards, the lumber mills and the steel mills of the country will be to about hold our own against the work of the submarine and the overstraining which is now being put upon all the world's shipping.

And we must build ships not for this year and next year only, but we must build ships for the years that are to come, because when the war is over a very large proportion of the entire shipping of the world will have been almost worn out by the strain under which it is now working and the failure to stop for repairs.

Moreover, no one can possibly foretell the end of the war. It may be one year hence (but we think it will be longer), two years, three years, four years; or it may drag out to still greater length. Whether it be one year or four years or more, before the war ends every ship that we can possibly build—wooden and steel—for the coastwise trade, for the lake trade, for the transatlantic trade—will be needed.

SOME INTERESTING COMMENTS ON THE WAR AS SEEN IN THE SOUTH.

MR. FRANK GOULD, vice-president of the MANUFACTURERS RECORD, who has been making a hurried trip through the South, in a running letter commenting on some of the conditions as he has seen them, writes as follows:

"I wish I had time to write of all the things observed and talked about in the different cities—in offices and hotels and on trains. The patriotism, the willingness to sacrifice, the denunciation of Vardaman and La Follette, the admiration for Northern troops at Southern camps, etc.

"Here is a notice stuck on my bedroom door, which reads as follows:

WAR and SERVICE

Labor is scarce. Our men are being called to serve their country. We will not replace those that leave, but will ask those who are left to work harder and so do their share.

Will YOU, the guest, be considerate.

It is one way in which YOU can help. Geo. R. Benton, Manager Hotel Savannah. Member of United States Food Administration.

"This is typical of signs and posters and menu cards everywhere. A warning to conserve labor and food, a plea to do everything 'to win the war.' Girls are running the elevators in some of the big hotels. The talk is of a long war. Middle-aged men on trains expect to get in it before Germany is licked. But withal cheerfulness and optimism rule, as should be.

"A body of tall Tennessee troops piled off a train at Nashville to run up and down the platform for exercise. You know the Tennessee product. I wish the Kaiser could have seen them. I made a fool of

myself, I reckon, but I just had to pat several of them on the back. Every man seemed over six feet tall—spare and brown and lithe as Indians. Crawford, of the Nashville, Chattanooga & St. Louis Railroad, said as they came running down the platform with a noise like thunder, 'God help the enemy when these fellows meet him.'

"A Montgomery man told me that the Ohio troops quartered at the camp there are the finest fellows he ever saw. The town and hotels are filled with them every night, and the people are delighted with them. There is no disorder of any kind. He had met dozens of them, and every man he met was a gentleman."

Such running comments in a personal letter are more interesting, as indicative of the situation, than any letter written for publication.

SOUTH WANTS ELECTROCHEMICAL SOCIETY MEETING.

THE opportunity for the Appalachian section of the South to secure the spring meeting of the American Electrochemical Society, as recently pointed out in the MANUFACTURERS RECORD, has met with enthusiastic response from leading business men, railroad officials, commercial organizations and other influential factors in these sections. They have been quick to realize that the securing of this convention will be taking advantage of a real opportunity, because it will enable them to show the men responsible for the development of electrochemical industries the splendid water-powers and raw materials the Appalachian South offers for the expansion of these industries.

An indication of how this opportunity is meeting a quick appreciation in the South is well shown by the following letter received from C. H. Crawford of the Nashville, Chattanooga and St. Louis Railway:

The copy of the RECORD for October 11 is in front of me and the editorial you mention is of more than usual interest, even for the RECORD. I, as well as all other men of technical or scientific training everywhere in the South, believe that the future world's supremacy of this country depends, just as you have so often stated, upon the water-power of the Appalachian South. You are familiar with the work that a committee from our local Engineering Society, of which Mr. Peyton is the chairman, has been doing for the past year in order to acquaint people generally with some of the wonderful possibilities in this line, realization of which the proper development of Muscle Shoals and neighboring powers will inaugurate.

I think you will agree that a constructive water-power development of something over 600,000 horsepower, with a minimum primary power of around 200,000, is not to be ignored by any community, group, class or even nation on the face of the earth, but the influences against it are very strong, so that the actual execution of the plan is not apt to begin until a more general knowledge of its almost limitless possibilities becomes engendered.

I know of no influence that can do more for the whole country along this line of broad and general co-operative planning than the American Electrochemical Society once these gentlemen become really conversant with the facts. I, and in this matter I also speak for the company I try to represent, am greatly interested in the idea of holding the spring meeting of the Electrochemical Society in the South, and especially in this section, as I consider it most opportune. I also like the idea of holding the meeting in a series of towns, and shall be very glad to co-operate in any way that seems to promise results.

By way of starting the program I suggest that the first session of the meeting be held in Chattanooga, the second session in Gadsden, the third in Birmingham, the fourth in Florence, Ala., which happens to be at the foot of Muscle Shoals; the fifth at Columbia, Tenn., which is on the edge of the great phosphate field, and the sixth in our own little city of Nashville. I offer this rough itinerary as a starter for discussion, on account of the ease of getting around the route named.

Please understand that anything I can do in the premises I shall be very glad, indeed, to do. I think that we should keep the matter actively before the attention of all of those who may have anything to do with the decision, for which I know of no influence more potent than that of the RECORD itself.

The MANUFACTURERS RECORD has been advised that a complete and comprehensive tour can be guaranteed on the part of Southern people. From many in the Appalachian South have come strong letters showing how keenly they appreciate the importance

of securing the visit of the American Electrochemical Society, and it is confidently expected that the trip will be successfully arranged, thus giving to members of this society an opportunity to study at first hand the marvelous resources which this section offers as a future situs for such industries.

ONE MORE ILLUSTRATION OF THE WORK OF THE FIENDS INCARNATE WHO FIGHT FOR GERMANY.

A DISPATCH from Christiania, Norway, to the Philadelphia Ledger and one from the same place by the Associated Press about the murderous warfare made upon the men and women on the merchant ship recently sunk in the North Sea again illustrate the fact that "Germany has sold its soul to the devil." We give these dispatches just as published here:

London Times-Public Ledger Service.
Copyright, 1917, by Public Ledger Company.

Christiania, October 22.

The newspapers are filled with terrible details of the destruction of the large fleet of merchantmen being convoyed by two British destroyers off Marstein Lighthouse last Wednesday morning by two German cruisers, with a total loss of 14 ships and 250 persons, including two women.

It appears from the report of a British officer, who was rescued and is now at Bergen, that one destroyer, the Mary Rose, fought against overwhelming odds. The other destroyer, which should have been present, but which never appeared, probably was destroyed at the beginning of the fight.

After a heroic fight of half an hour the Mary Rose, which, during the whole time she was subjected to a terrific concentric fire, had replied with supreme coolness, and whose crew never had thought to escape in the boats, ultimately was blown up, the 10 survivors finding themselves clinging to two big buoys, five on each, in a tempestuous sea.

The work now was easy for the German ships, which commenced to shell the merchant vessels, all reports agreeing on this point. The butchery passes description. The crews were killed and mutilated indiscriminately on board both ships and boats. Two women, waving from a ship a white piece of cloth, at a distance of a few hundred yards, perfectly visible, were silenced by a volley from the Germans, intent on destroying all.

A thrilling story of the fight is told by Captain Roennevig Haugnesen of the steamer Kristine, the only man surviving of a crew of 11. After their escape to a boat, all safe, it was shelled, and in consequence nine were killed.

The rest now tried to get back to the ship, which consequently was shelled. Two men were swept off by the fire. The captain ultimately was saved.

A scathing article, headed "A Heroic Deed," published by the Sjøfartstidende, commenting on the raid, which has been glorified in Berlin, stamps it as "nothing but a crime against humanity."

By Associated Press.

Christiania, October 22.

The Norwegian newspapers bitterly denounce the "murderous attack" of the Germans in the convoy action last week in the North Sea. The newspapers in Bergen, where survivors of the attack were taken, demand the deportation from Norway of all Germans employed by the German general purchasing agency.

The Christiania newspaper Verdens Gang says the affair was characteristic of German brutality and exceptional cowardice. The newspaper adds that the Germans, having put the British warships out of the game, netted against peaceful merchantmen as if they were part of the British navy.

"It was the most dastardly deed any navy can boast of," says the Tidens Tegn. "It outrivals all other German crimes."

ARE YOU INSURED?

What insurance premiums will you pay next year? Instead of laying aside the amount of money from week to week or month to month to meet your premiums, buy Liberty Bonds on weekly payments, if need be, to the extent of the premiums, and when the latter are due pay them in Liberty Bonds. Insurance companies would have no difficulty in handling these bonds.

COTTON CONSUMPTION, STOCKS AND EXPORTS.

FOR the month of September the Department of Commerce reports that 522,735 bales of cotton were consumed, in comparison with 528,288 bales in September of last year, and that for the two months ending September 30 1,092,086 bales were consumed, against 1,086,068 bales during the same period of 1916, a gain of 6018 bales.

There were 959,324 bales of cotton in consuming establishments September 30, 1917, compared with 1,328,368 bales for the same period of 1916, a decrease this year of 369,044 bales, or 27 per cent., while in public storage and at compresses 1,570,951 bales were reported on hand September 30, a decrease from the 2,614,365 bales reported on hand September 30, 1916, of 1,043,414 bales, or 39 per cent.

COTTON CONSUMED AND ON HAND IN SPINNING MILLS AND IN OTHER ESTABLISHMENTS, AND ACTIVE COTTON SPINDLES. (LINTERS NOT INCLUDED.)

| Locality. | Year. | Cotton Consumed | | Cotton on Hand Sept. 30 | | Cotton spindles active during Sept. (No.). |
|----------------------------|-------|-----------------|-------------------|---------------------------------|-------------------------------------|--|
| | | During | Two months ending | In consum- ing estab- lishments | In public storage and at compresses | |
| United States..... | 1917 | 522,735 | 1,092,086 | 959,324 | 1,570,951 | 33,555,698 |
| | 1916 | 528,288 | 1,086,068 | 1,328,368 | 2,614,365 | 32,340,189 |
| Cotton-growing States..... | 1917 | 299,430 | 630,195 | 298,217 | 1,405,689 | 14,145,855 |
| | 1916 | 304,392 | 622,885 | 601,043 | 2,455,907 | 13,361,202 |
| All other States..... | 1917 | 223,305 | 461,891 | 661,107 | 165,262 | 19,409,843 |
| | 1916 | 223,896 | 463,183 | 727,325 | 155,453 | 18,978,987 |

*Includes 17,917 bales of foreign and 7612 bales of sea-island consumed, 81,396 bales of foreign and 26,255 bales of sea-island held in consuming establishments, and 39,934 bales of foreign and 23,752 bales of sea-island held in public storage.

Linters not included above were 89,088 bales consumed during September in 1917 and 61,949 bales in 1916, 100,474 bales on hand in consuming establishments on September 30, 1917, and 72,723 bales in 1916, and 99,241 bales in public storage and at compresses in 1917, and 82,426 bales in 1916. Linters consumed during two months ending September 30 amounted to 168,057 bales in 1917, and 134,967 bales in 1916.

ALABAMA AND GEORGIA GREATLY INCREASE PEANUT ACREAGE.

ACCORDING to the Agricultural Department, the substitution of peanuts for cotton in those sections in Florida and in Southern Alabama and Georgia suffering severely from the cotton boll-weevil has extended so greatly during the present year that preliminary estimates of the field agents of the Bureau of Crop Estimates indicate that Alabama has planted, either with corn or in solid acreage, approximately 980,000 acres in peanuts, Georgia not less than 500,000 acres, and Florida 375,000 acres, mostly of the Spanish variety. Although the bulk of the crop in these States is used as forage, the grinding of peanuts has attained considerable dimensions, and as cottonseed pressing mills can be quickly readjusted to grind peanuts, the number of mills entering this field has greatly increased during the year. It seems probable, according to the Department's report, that the planting of peanuts in these two States has this year outstripped the provision being made for grinding the supply of nuts that will be available for that purpose.

TREMENDOUS LOSS IN LIVESTOCK KILLED ON RAILROADS.

B. F. BUSH, president of the Missouri Pacific Railroad, also a member of the National Defense Committee, has issued a circular urging everyone to co-operate and avoid the tremendous loss caused by the killing of valuable animals on railroads. It says that during the five years ending June 30 of this year there were killed on the lines in Missouri, Arkansas and Louisiana, comprising fifteen roads, a total of 121,596 head of livestock of an approximate value at current prices of \$7,800,000, or about 10 head per mile of line for the period, the length of line being 12,641 miles. This slaughter included 10,236 horses and mules, 41,536 cattle, 62,569 hogs, 4526 sheep and goats, and 2729 other food animals.

This deplorable loss of food and draught animals is mainly owing to the lack of adequate fencing, livestock being allowed in many localities to roam the roads and fields at will or to stray on the railroads, and Mr. Bush appeals to farmers to keep their animals in fenced enclosures, to town and village officers to prohibit stock running at large, and to railroad men to personally request owners to keep their animals within bounds.

The data presented is really appalling when it is

This gives a total shortage of cotton on hand at consuming establishments and in public storage and at compresses of 1,412,458 bales, or 35 per cent., as compared with the same date last year.

There was an increase of 1,215,509 active spindles during September, 1917, over September, 1916, of which 784,653 was the increase in the South.

Exports of domestic cotton and linters during September, 1917, were 454,147 bales, including 40,799 bales of linters, and 539,679 bales, including 27,571 bales of linters, in September, 1916. For the two months ending September 30, 913,814 bales, including 62,844 bales of linters, were exported this year, compared with 965,025 bales, including 67,668 bales of linters, in the corresponding months of 1916.

Imports of foreign cotton for the two months ending September 30 this year were 25,793 bales, against 15,409 bales for the same period of 1916.

considered that this waste of food and work animals could readily be prevented, and it is to be hoped that the circular will stimulate everyone toward reducing this avoidable loss to the minimum and that it will have gratifying effects also in other States.

IF HE NEVER RETURNS.

[Baton Rouge State Times.]

A pathetic scene was witnessed at a not distant railroad station the other day, when a mother bade farewell to her son, as he departed for a training camp. The poor woman was almost overcome with emotion. Her only boy was turning his back upon the home. She felt that she was telling him good-bye forever, and she so stated to the manly fellow who stood before her. "You will never come back," she sighed—"Oh, my boy; you will never come back to me if you go to France!"

The young fellow took his mother in his arms. He assured her that the chances were he would return. "But," he said, "listen, mother: If I die fighting in France, I shall be better off than you will be here in this country if Germany wins this war."

Mothers and fathers should read the words of this brave boy. They should have them impressed upon their minds. For not since the war started has any man uttered greater philosophy. The dead soldiers in France will be better off than the living people of this country if Germany wins! They will at least be beyond the reach of a Prussian military officer; they can no longer be kicked off the streets; they will not have to stand with folded arms and witness a brute of an officer outrage a sister or strike a mother over the head with a sword, or see a baby brother struck through with a bayonet. All these things have been witnessed by the people of the countries where the Germans rule. Aye, better dead a hundred times than to be the slaves of the foulest military hierarchy that has ever cursed the earth!

NATIONAL BANK RESOURCES BREAK RECORDS.

CONCERNING the results of the late call for statements of the conditions of the national banks of the United States on September 11, the Comptroller of the Currency says that if \$5,000,000,000 of deposits were withdrawn from them now, their aggregate deposits would still be \$286,000,000 greater than they were in the autumn of 1913, the year before the war began in Europe.

But even more than this he says. While the national banks assisted so largely in financing the

first Liberty Loan of \$2,000,000,000, which involved to a certain extent the withdrawal of deposits, yet their deposits now, as compared with May 1 last before the first Liberty Loan was announced, show an actual increase of \$154,000,000.

Still more accumulation: The total resources of the national banks are now \$16,543,000,000, an increase of \$392,000,000 since June 20 of this year and of \$2,132,000,000 since September 12 of last year. Deposits are \$462,000,000 more than they were on June 20, 1917.

This showing is wonderfully indicative of the magnitude of the accumulated wealth in the United States.

"UNTIL THE WAVES CLOSED OVER THEM."

Roland Rathbone, in New York Herald.

So, men of the Antilles, in one deed
Wrought in an early hour thou hast summed
And substantiated in the eyes of all the world
The purpose of thy country in this war!

Hun! mark thee well, on the Antilles' deck
Stood men and officers with death their guardian.
As the transport sank the men stood at the guns,
The officers with glasses swept the sea
For just one glimpse, and therefore, just one shot.
At thy fell minister—they saw him not;
Therefore they waited, each one at his post,
Until the waves closed over them!

Men of the Antilles! * * *
Before thy open grave the nation stands
And utters thee this promise:—One and all,
United in the greatest human cause
The world has ever known—we will not fail
To follow out the rule ye have laid down.
If it be so that Wrong can conquer Right
We'll let the foeman prove it in the way
Thou hast commanded—each man at his post,
His hand upon the gun, and Wrong shall win
When the waves close about us, not before!

TWO results of this war: France found her soul; Germany lost her's.

AMERICA'S RELATION to the WORLD WAR

Shall Our Nation Live or Perish?

(A Fifty-two Page Pamphlet)

As viewed by the Editor
of the
Manufacturers Record

Read and distribute this pamphlet as others are doing. It may stir your patriotism and its distribution by you may be a part of your patriotic service. Ten cents per copy.

Don't Want to Be Without It.

C. A. BRYANT, Jr., C. A. Bryant Company, Dallas, Tex.

We have just received your notice of October 1 that our subscription expires with the next issue, and take pleasure in advising that you may renew this and that in future it will not be necessary to write us about a renewal. You may just take it for granted that we do not want to be without your splendid paper, particularly at this time.

German-Owned Property In America Taken Over

THE GOVERNMENT MAKES A WISE MOVE TO USE GERMAN PROPERTY
AGAINST GERMAN ARMIES.

[Special Correspondence Manufacturers Record.]

Washington, D. C., October 23.

Under a decision made by the Supreme Court of the District of Columbia the right of a trustee to invest moneys held by him in Liberty Bonds was established in an inconspicuous case early this week. Under this interpretation of the law this will release property and money to the value of \$200,000,000 belonging to German subjects or owed to them by corporations or individuals in the United States, which will be seized and used to buy Liberty Bonds to finance the war against Germany.

A. Mitchell Palmer, a lawyer and National Committeeman from Pennsylvania, who was recently appointed custodian of enemy property, has made full preparations to employ the goods and money thus seized in the war against Germany. All the money he obtains in his official capacity will go toward the purchase of Liberty Bonds.

It is estimated unofficially that the value of cotton, copper, steel and oil stored in the United States for German corporations amounts to \$150,000,000. Probably it may exceed this amount.

Wm. J. Flynn, Chief of the Secret Service, already

is at work confiscating German stores which were purchased for the most part by German agents solely for the purpose of preventing their shipment to the Allies.

Mr. Palmer is organizing a force for the seizure of all materials held by German interests. He has received hundreds of letters from corporations and others, offering to turn over to him large amounts of money in the shape of dividends of German-owned corporations in the United States, as well as amounts due in settlement of estates and bills owed German business houses by American houses.

The alien property custodian is specifically authorized, under the trading with the enemy act, to invest these funds in Liberty Bonds. The money collected will be held by him until the end of the war and then dealt with as Congress directs.

By this means enemy property which can be easily liquidated will be used against Germany. There is a good deal of cotton which is said to be stored in the South for German account, and Mr. Palmer will direct an investigation of this with a view to disposing of it for the country's benefit in war.

South's Enthusiastic Loyalty Typified in New Orleans' Spirit

TEACHINGS OF VARDAMAN AND LA FOLLETTE ARE LOATHED AND ABHORRED—ALL SOUTH CO-OPERATING TO HELP WIN THE WAR—SOUTH VERY PROUD OF SOLDIER-BOY GUESTS.

[Special Dispatch to Manufacturers Record.]

New Orleans, La., October 22.

"Are you more tender with your dollars than your sons? If not, subscribe for a Liberty Bond today."

"Go, guard, or get a bond."

"Ring out autocracy, ring in democracy."

These are a few of the signs with which practically all New Orleans is placarded. Hotels, stores and railway stations have given them space freely. Soldiers are stationed on the principal streets in the business district, ringing huge bells that are mounted on trolley poles; meetings are being held by commercial clubs and in churches to arouse the people to the necessity of lending their money to the Government.

The enthusiasm seen in New Orleans is typical of Nashville and Memphis and other cities in the Central South which have recently been visited.

The whole South may be counted upon to do its part to the limit in backing up the Government in the present crisis. There is no doubt about that. La Follette and Vardaman and their kind are discussed with loathing and abhorrence. The business men of the South have no time for dissenters now. They are in this war with the determination to win, and they are wholeheartedly behind their young men who have gone into the country's service. Not only in the campaign for the Liberty Loan, but in willingness to sacrifice and put up with inconvenience due to the shortage in labor and food conservation every help possible is being extended the authorities. Beefless days and wheatless days are being instituted on diners and in hotels. They are being accepted cheerfully, because it is realized that in this we are contributing to our Allies and the men in France who need the things that are being given up.

In some of the hotels girls are running the elevators,

and in one prominent abode for traveling men signs are posted on every bedroom door, asking the guest to be as sparing as possible in their calls on the bellboys, as a large part of the help has gone into the Army and the house is trying to do the best it can with what is left.

No grumbling is heard about any of these things on the part of the traveler. He accepts it all cheerfully and in a fine spirit of co-operation that shows the metal of the country today.

The crowded condition of the hotels, especially those near cities where cantonnments are located, must be a thorn in the flesh of the easy-going traveling man, because he is turned away nightly or asked to sleep two and three in a room, as the soldier boys' relatives are in the South by the thousand and present accommodations are inadequate. But the Knight of the Grip is taking it as a matter that can't be helped in the present emergency.

Soldier boys are everywhere, and what splendid fellows they are! These Southern communities are just as proud of them as their home towns are. Nothing is too good for them. A railroad man who was actively engaged in the movement of troops during the Spanish War contrasted to me today the healthy, superb condition of these men and their high moral conduct with some of the troops he helped to move in 1898. Of course, the men now in the Southern camps are all, as near as examining doctors can determine, perfect men physically. They have been selected for their physical fitness, but the outstanding fact is that the good order which prevails and the uniformly fine conduct of the men is due to the absence of liquor.

This is universally recognized and commented on. Those who lived in Southern cities which the militia

visited in 1898 well remember the brawls and scenes of disorder around railroad stations and in places where troopers congregated. But all this has changed. The South is proud of the soldier guests from other sections. It is according them its best hospitality and treating them as gentlemen, with the certainty that its confidence will not be misplaced.

While it is recognized that this great influx of soldiers and their relatives is bringing large sums of money to the South, money from the Government for supplies and from the purses of privates and officers as well as other visitors, there has been little or no disposition on the part of the Southern merchants to gouge. It is to be hoped there will be none. The South is on trial much as the soldiers are on trial, and in the years to come Southern communities will find that the friendly feeling created in the minds of these young men will be a tie worth while.

FRANK GOULD.

Slight Increase in Coal Production for Week Ended October 13.

A slight increase in bituminous production occurred for the week ended October 13, states the Geological Survey in its weekly report on the production of bituminous coal and the causes of loss of working time. The total output, including lignite and coal coked, is estimated at 10,702,701 net tons, a gain of .7 per cent. over the week of October 6. The average production per working day was 1,783,783 net tons, an amount but little in excess of the daily production at this season last year. This excess will hardly meet the increased demand for coal this year over last year's requirements.

The week's production of beehive coke is estimated at 689,918 net tons, an average per working day of 114,986 tons.

ESTIMATED UNITED STATES PRODUCTION OF BITUMINOUS COAL AND OF BEEHIVE COKE.

| Week ended | Total bituminous, including coal coked. | | Beehive coke (at the mines). | |
|--------------------|---|--------------------------|------------------------------|--------------------------|
| | Net tons. | | Net tons. | |
| | Total for week. | Average per working day. | Total for week. | Average per working day. |
| September 29*..... | 10,916,113 | 1,819,362 | 683,224 | 113,871 |
| October 6*..... | 10,623,908 | 1,770,501 | 690,599 | 110,097 |
| October 13..... | 10,702,701 | 1,783,783 | 689,918 | 114,986 |

*Revised from last report. †Subject to revision.

One hundred and fourteen bituminous carriers originated 93.75 per cent. of the soft coal transported by rail in 1916.

Anthracite shipments increased from 42,362 cars to 42,824 cars during the week of October 13.

CARLOADS OF COAL AND COKE ORIGINATING ON PRINCIPAL COAL-CARRYING ROADS.

| District. | -Week Ended- | |
|--------------------------------------|--------------|----------|
| | Oct. 6. | Oct. 13. |
| Bituminous shipments, 144 roads..... | 186,752* | 188,163† |
| Anthracite shipments, 9 roads..... | 42,362 | 42,824 |
| Beehive coke shipments, 4 roads..... | 13,561* | 14,163† |

*Revised from last report. †Subject to revision.

The principal factors limiting production of both coal and coke remains shortage of cars and shortage of mine labor, states the report. In the week ended October 6, losses from the cause of car shortage, while smaller by about 2 per cent. than during the preceding week, were 10.4 per cent. of the full-time capacity. The car situation improved notably in Indiana, and to a lesser degree in Ohio, in both of which States losses from this cause have been severe. Little change was reported from Pennsylvania and West Virginia. No additional reports have been received by the Geological Survey of mines forced to close down under the present scale of prices. No mines reported lack of orders as a reason for closing down. The settlement of the Southern Appalachian strikes, effective October 8, came too late to influence the index for that district during the week of October 6.

Sixty-seven operators in the Connellsville and adjacent districts of Pennsylvania reported a production of 319,830 net tons of beehive coke for the week ended October 13. The percentage of production to capacity, as rated by the railroads, dropped from 72.7 in the week of October 6 to 68.2, a change caused by a more stringent shortage of coke cars. The 67 operators shipped in addition 176,350 net tons of coal.

The Electrician (Australia) reports control of Australian tramways divided as follows: Municipal, 123½ miles; private, 142¾ miles; Government, 296¼ miles.

Vast Government Work Around Hampton Roads

EXPENDITURES ON SHIP CONSTRUCTION, STATIONS, BASES, WAREHOUSES
BARRACKS, ETC., REACH TOWARD \$150,000,000

[Special Correspondence Manufacturers Record.]

Newport News, Va., October 20.

Hampton Roads has been made the center of army and navy activities by the United States Government since this country declared war on Germany. "Preparedness" expenditures here aggregate many millions of dollars.

Located on Hampton Roads, within a radius of 10 miles, are Fort Monroe, Fort Wool, Hampton Roads naval base, the Norfolk Navy-yard, the Newport News Shipbuilding & Drydock Co., Langley aviation field, Camp Stuart, Camp Hill and a large aviation camp near Morrisons and scores of large warehouses, to say nothing of the large horse corrals in America.

Aside from garrisoning coast artillery companies which would be called on to defend the country in case of attack by hostile forces, Fort Monroe now houses thousands of soldiers, many of them officers, who are being trained for service in Europe.

Just opposite Fort Monroe is Fort Wool. This has been strongly garrisoned.

Opposite Fort Monroe on the Norfolk side is located the Hampton Roads naval base. A recent addition to the naval base was an aviation school for the instruction of naval flyers. Twenty thousand sailors are to be sent to the base for training within the next month, and there now are more than half a hundred aviation students in training.

Large buildings are being put up almost overnight. Railway spurs are being run from the Norfolk railways to the station, and deep-water piers are jutting out into Hampton Roads.

The harbor is large enough to accommodate at one time the entire navies of the world.

Langley aviation field, located on the Newport News side near Hampton, now is the most important airplane testing station in the world. American, French, British and Italian machines are being tested out daily, the Government is experimenting with new engines and propellers, and flyers are almost constantly in the air.

Scores of large temporary buildings have been erected at great cost, and several thousand laborers are working night, day and Sunday to meet the demands of the Government. The frame buildings will be torn down at the conclusion of the war and replaced with substantial brick and concrete structures.

While the fighting craft of the country are patrolling the seas and whipping the newly enlisted men into shape for fighting, the ships in need of repairs are being cared for at the Norfolk Navy-yard. Many improvements have been made there, hundreds of additional workmen have been taken on, new buildings and shops erected, and the Government now is planning to deepen and widen the channel to the sea.

Located in and near Newport News are Camp Stuart, which will accommodate 35,000 men, and Camp Hill, where there is room for 20,000 horses in addition to the hundreds of men needed to care for them. Nearly 10,000 workmen are rapidly building barracks, storehouses and supply stations.

About five miles away from the city is located the aviation assembling camp. Barracks are being built for 5000 men and warehouses for the storing of thousands of machines. Stone roads, spurs of railway track and other improvements are being put in, and so anxious is the Government to get the work done at once that hundreds of men are being brought in every day from all sections of the country.

Great office buildings, huge warehouses and officers' barracks for the men in charge of the work going on at the port are being erected in the city.

The Government has requested the city and the counties between here and Richmond to build a stone road from Newport News and Richmond, and the city of Newport News is spending \$100,000 in building a stone highway to connect the two camps in the city.

The Newport News Shipbuilding & Drydock Co. has contracts for \$130,000,000 worth of Government work, which includes torpedo-boat destroyers, which must be

completed in the shortest possible time. Eight thousand men are working night and day to turn out fighting craft to cope with the German submarine blockade, and the yard hopes to have at least 4000 more on its payroll within the next year.

The shipbuilding company recently purchased enough land to the north and south of its present limits to double the capacity of the yard, and \$6,000,000 is being spent in improvements necessary to carry on the work at this time. In addition to this, the yard plans to erect barracks to accommodate about 2000 workmen. This work is already under way. Plans for a large recreation center now are being prepared. Six additional shipways, two of which are said to be the largest in the world, are being built, a new office building is being erected at a cost of \$100,000, and new shops, piers and cranes are springing up almost over night.

The population of Newport News, exclusive of the military population, has jumped from 30,000 to 50,000 within three months, according to estimates of city officials, and corresponding increases are shown at other points near the city.

The United States Government has recently urged the Newport News & Washington Short Line Railway Co. to immediately build the proposed road from Washington to this city. It is reliably reported that the Government guaranteed freight rates which would tend to offset the high cost of construction at this time.

Government experts have been over the territory with a view to linking the city with the seven railroads of Norfolk by an elaborate car float system.

On the York River near Williamsburg the Du Pont powder plant is employing hundreds of additional workmen, new buildings are being erected and new machinery installed.

Land has advanced in value everywhere in the section. The Government leased most of the land it is using for the period of the war, with option to buy at the expiration of the lease.

No matter what conditions generally may be at the conclusion of the war, at least five years of unprecedented prosperity are assured for Newport News, for the shipyard alone has enough work to operate at capacity during that length of time.

Coincident with a move recently made by business men of Norfolk to purchase \$100,000 worth of the most desirable land in and near Norfolk for factory sites comes the announcement that the Standard Oil Co. will spend \$2,000,000 on developing its supply station on Bush Bluff, near the city, and that the Guardian Motor Co. will put up a factory near the city at a cost of nearly \$1,000,000.

Both these projects are to be started immediately, and will be rushed to completion, according to officials of the company recently in the city. In addition to these two shipbuilding plants are contemplated by foreign interests and several smaller industries are negotiating for land.

Furthermore, nearly half a hundred of the city's most prominent business men a short time ago launched a movement to bring to the city scores of small industries by offering them desirable sites at a reasonable price.

The Standard Oil Co., which now has a fair-sized station at Bush Bluff, plans to immediately spend \$1,000,000 in enlarging its plant and equipment. A large tract of land now under shoal water will be filled and bulkheaded to supply acreage for the station. The 30 acres of high ground will be used as a factory site of a nature not yet made public. The Standard Oil Co. operates a large fleet of tank steamers, with more being added every year. The Norfolk plant would provide the logical distributing center for a bulk of the Atlantic trade, just as the port already has attracted the Texas and Red C companies.

The Guardian Motors Co. recently purchased a tract of 250 acres of land on the eastern branch of the Elizabeth River, part of which abuts on the tracks of the Virginian Railway, and immediately will begin the con-

struction of a plant costing \$750,000. Fifteen acres will be occupied by the various buildings of the manufacturing plant, and the remainder will be used for the erection of homes for employes and the expansion of the plant. From 3000 to 5000 cars will be turned out every year by the company, and 5000 skilled workmen eventually will be employed, officials of the company say. The weekly payroll is estimated at \$100,000.

Norfolk now is one of the coming manufacturing centers of the South, has seven railways running into or through it and scores of excellent deep-water piers which are used in loading many of the steamers now supplying the Allies with food.

The population of the city is growing steadily, and kings of American finance have interested themselves in projects here, some of which have not yet been put before the public.

Trainload of Tennessee Pumpkins for Soldiers at Georgia Camp.

Columbia, Tenn., October 20—[Special.]—The serious business of war will present its demands on the American people more forcibly during the fall and winter months than since this country cast her lot with the nations fighting for civilization, and no class of people are better prepared or more willing to respond than the American farmers. In the South they are garnering the largest food crops on record. They have learned the lesson of economy and are appreciating the blessings that Providence has bestowed upon them in providing every favorable condition for their advantage in producing as they have never produced before. Even the by-products of the farm are coming in for their share of importance in this business of carrying on the war. Farmers have realized that foodstuffs are as important as ammunition, and therefore must not be wasted.

A striking evidence of the utilization of an ordinary farm product that has heretofore only served to appease the fancies of the superstitious is the use of the pumpkin. This altogether conspicuous finale to harvest season will no longer adorn the depleted corn rows until devoured by the favorite porkers, but is being carefully selected, at the direction of Mr. Hoover, for the soldiers' dessert. The Columbia Canning Co. is buying every pumpkin within a radius of 25 miles of its factory for the purpose of filling an order for 100,000 cans. The price paid for the raw product is more to the farmer than he could realize from it if used as stock feed, and besides, it makes a most delectable dish for the soldier.

A visitor traveling any of the highways leading from the fertile farming sections to the factory center will sooner or later meet a large wagonload of mammoth pumpkins. Although the celebration of Hallowe'en might at first suggest itself to the visitor, inquiry would soon convince him that patriotism has long since overshadowed the light fantastic celebration. The farmer is seriously applying himself to the business of the war, and has no time to waste his products in riotous living. He is appreciating the responsibility resting upon his shoulders as the mainstay of the country.

The order that is being handled by the local firm is equivalent to practically a trainload, and when completed will be consigned to the commissary department at Atlanta.

The pumpkins are now in the midst of their ripening season, Jack Frost having given the final touch.

To Drill for Oil and Gas in Pascagoula District, Mississippi.

Pascagoula, Miss., October 18—[Special.]—Drilling for the purpose of definitely determining whether oil and gas can be found in the Pascagoula district in commercial quantities will be started as soon as the machinery and pipe can be secured. Several wells were drilled in this section in 1911 and 1912, but they were abandoned. A flow of gas was found in one of the wells, but not in paying quantities. The gas burned for 10 months, when the flow was shut off by a cave in the well. The drilling several years ago followed immediately after the publication of reports issued by the Federal and State geological surveys indicating that oil and gas existed in the Pascagoula district. The operators that will drill the new wells have secured oil leases and will attempt to verify the opinion of the geologists.

Vital Problem of Fertilizers

Discussed by Government Experts

[Special Correspondence Manufacturers Record.]

Washington, D. C., October 19.

Many an earnest man who feels that he knows what the present world war is all about becomes puzzled when he looks over the various ways that are being suggested for determining its outcome.

Each and all of these are eminently proper in their own place. With a large part of the preparations and subsequent activities, however, the details are too highly specialized for any but the trained mind to follow. Expert opinions, therefore, are and of necessity must be taken largely on faith.

There is one feature, nevertheless, that will not be lost sight of; or, if it is, it will be rudely forced upon the national consciousness after considerable and painful deprivation. This feature is that armies still travel on their bellies just as truly as they did in Napoleon's day, however much the art of war may have changed in other respects. As a natural consequence, there is the call for food, and in the call for food there comes into question the productivity of the soil to the highest extent.

It is in view of this situation that a simple description of the means for producing the food in the largest measure becomes of importance to all. There is still left open the great field for the specialization processes of the scientists and the operation of the machinery of the Government to produce the elements of food growth that must be applied to the soil in order to achieve the desired results. But the value of the simple description still stands unimpaired, if only that it may bring the ordinary individual into understanding sympathy with these larger movements.

This need has been furnished in a great measure in a publication just issued by the United States National Museum. The title of the work is "Fertilizers—An Interpretation of the Situation in the United States," by Joseph E. Pogue of the division of mineral technology.

In his publication Dr. Pogue points out clearly, and in a manner easily understandable by the reader without technical knowledge of fertilizers, what raw materials are available in this country and how they may best be recovered and manufactured, and shows definitely what attitude should be adopted by the Government toward the new fertilizer industries growing out of conditions caused by the war. He also explains in a general way the theories of soil formation and of plant growth, and shows that under prolonged cultivation without the addition of fertilizer the soil is exhausted in respect to three of its most important plant foods—phosphorus, nitrogen and potassium. He then considers each of these elements in turn, describing the sources, available amounts and ways of increasing the outputs of each, and concludes by pointing out that the best progress in the fertilizer field will come through enlightened co-operation between the fertilizer industries, the Government and the consumers.

In a brief summary the National Museum has covered the main outlines of the bulletin, with particular reference to the functions of phosphorus, nitrogen and potassium in contributing to plant growth. Incidentally, readers of the MANUFACTURERS RECORD who have followed the official developments of the Government nitrate plant will be interested in Dr. Pogue's speculations on why the Congressional appropriation of \$20,000,000 for such plant has "not yet materialized." The summary is as follows:

"The soil does two things: It forms a mechanical medium for supporting and protecting the growing plant, and it supplies the plant with some of the chemical material to be built into its structure. In the normal course of events plants spring up, live their course and die, giving back to the soil the elements employed in their life cycle. But where plants are removed artificially, the balance is destroyed, and unless the necessary chemical elements are returned to the soil in some form, it is soon rendered unfit for further cultivation. By long experience it has been learned that those elements of which the soil is most quickly depleted are phosphorus, nitrogen and potassium. The fertilizer industry, therefore, is at present chiefly concerned with securing an adequate supply of the raw material of these

three substances, and the development of a wider and more intelligent use of fertilizer, especially at this time, when the world war endangers certain of the supplies and at the same time necessitates an increased yield of food.

"Phosphorus, in the form of compounds, enters into the structure of plants chiefly in the seeds and fruit, and through them into animals. In the latter it is an important constituent of bone and is present also in the brain and associated nervous matter, thus being especially important to man. The basis of commercial fertilizer is an impure compound of phosphorus occurring in nature in large masses and known as phosphate rock, of which the United States is the world's greatest producer. Among the other sources of phosphorus, fish scrap, cottonseed meal, bones, slaughter-house refuse and guano are the most important, but the demand for these substances for other purposes is fast reducing their availability for fertilizer. The chief producer of phosphate rock in this country is Florida, which contributes 75 per cent. of our annual output of 3,000,000 tons. Here the rock occurs in deposits which can be economically worked, and their position near the coast affords cheap transportation to manufacturing centers. There are smaller deposits in Tennessee, South Carolina, Kentucky and Arkansas, and in 1906 a large belt of country from Salt Lake City to Helena, Mont., was found to contain a large amount of phosphate rock. This field has not yet been much developed owing to the small local demand for fertilizer and the long freight haul to the East. Phosphate rock, to be made suitable for fertilizer, has to be treated with about an equal amount of sulphuric acid, which was, until the war, obtained from pyrite imported from Spain. Since this source has been endangered by submarine warfare, the numerous small deposits of pyrite in the Eastern United States have had a limited development. The statement by the Government of a definite post-war policy with regard to the protection of this new industry would undoubtedly speed up development along these lines.

"Nitrogen contributes stalk growth to the plant, and in animals enters into the composition of the proteid compounds, of essential importance in the life processes. The chief source of nitrogen has long been sodium nitrate, obtained chiefly from the deserts of Northern Chile, but owing to the demand for this substance for use in explosives and to the high price caused by the royalty imposed by the Chilean Government, the nitrogen question has been a prominent one in this country for some time. The two other chief sources of nitrogen are the atmosphere and coal. The recovery of nitrogen as a by-product from coal is a growing industry, going hand in hand with a well-balanced growth of the entire coal-products industry, and to reach its full development must expand through a gradual extension of the uses of coke for fuel and power purposes, for the recovery of nitrogen is made chiefly from the by-product coke ovens. The ultimate source of nitrogen, however, on which the world must eventually depend is the atmosphere. The three practicable processes for fixating this atmospheric nitrogen have been found to be the arc process, the cyanamid process and the Haber process. It is a significant fact that as soon as the Haber and cyanamid processes for getting nitrogen for explosives as well as fertilizer from the air had been successfully developed in Germany war was declared. In the United States the need has for some time been urgent to draw upon atmospheric nitrogen. Last year Congress appropriated \$20,000,000 for such a plant, but it has not yet materialized, presumably because such an industry, if established abruptly on such a large scale, would endanger the whole coal by-product industry, with its far-reaching ramifications, by setting up in competition a non-profit-seeking industry.

"The third major plant food is potassium, which contributes stalk strength and kernel filling to the growing plant. The chief source of potassium before the war was the great Stassfurt deposit in Prussian Saxony, and the abrupt cutting off of this supply led to an awkward situation in this country, and the supply is still inadequate, though we are now producing potash from a variety of sources. Chief among these are the alkali

lakes of the West, which have been found to be relatively rich in potassium compounds, and another important source is the kelp, a giant seaweed which grows in considerable abundance along the Pacific coast from Lower California to Alaska. Among other minor sources is the successful application of a method of recovering potash out of the dust from the flues of Portland cement plants and iron-blast furnaces. The most important question concerning this new industry is, What will become of it after the war, when the importation of cheap potash from Europe is resumed? The proper solution of this problem would seem to be a Governmental subsidy, rather than a high tariff on the foreign potash, which would result in higher prices to the farmer and an increase in the price of food.

"In concluding his interpretation of the fertilizer situation, the author states that the responsibilities of the Government in this respect have not yet been realized. Solution of the problems should grow out of a policy of anticipation, not out of a lagging accommodation to passing conditions. One of the most pressing problems is to gradually and normally stimulate the development of domestic sources of supply, not only that a repetition of the present situation will be impossible, but also that a more extensive peace-time production will be the outgrowth. The American public have an interest in this matter. It is their duty to inform themselves in this regard and to increase their comprehension of the problems in order to press and shape effective action."

Dr. Pogue's report is issued in pamphlet form by the National Museum at Washington, and as a Government publication is sent free to applicants who can make good use of it. The present edition is limited, but the Advisory Commission of the Council of National Defense is arranging to issue a much larger edition as a part of its work of bringing all of the elements of the strength of the nation to the highest point of efficiency in the prosecution of the great war task which lies ahead.

Planning to Drain Large Tract of Alabama Swamp Land.

An important reclamation-drainage undertaking in Alabama is mentioned in a letter to MANUFACTURERS RECORD from Wallace F. Maxwell, Haynesville, Ala., in which he says:

"Under an act passed by a recent session of the Legislature of Alabama, authorizing the formation of 'drainage districts,' a company of civil engineers have for some time been working on a project and have secured the signatures of a majority of the owners of land in and adjacent to a large area of swamp land known as 'Big Swamp,' in Lowndes county, and it is practically assured that the district will be organized at an early day and a commission appointed by Judge Wood of the Probate Court of Lowndes county at Haynesville, Ala., authorized to place the contract for the digging of a main canal 60 feet wide at the bottom, 12 feet deep and some 12 or 15 miles long, as well as lateral ditches.

"The extent of the land to be reclaimed is variously estimated at from 25,000 to 35,000 acres, and will throw open for sale or cultivation one of the richest bodies of land in the South, second perhaps in richness to only some portions of the Florida Everglades, and in one of the healthiest sections of the South.

"As this is already a very important cotton, corn and general produce farming section, as well as the second largest cattle and hog-producing county of Alabama, the new enterprise takes on a semblance of national importance.

"No official appointment of engineers has yet been made, but the promoters are Messrs. J. Rice Scott, John S. Tollard and Herbert Stanley."

Eighteen Miles of Pipe Line for Mexican Oil Fields.

Galveston, Tex., October 18.—[Special.]—Arrangements were made here this week by the Island Oil & Transport Co. for the transportation of about 5000 tons of material to the Mexican coast for use in constructing storage tanks and pipe line from the company's fields, about 60 miles south of Tampico and 18 miles from the coast. The pipe line, which will be 18 miles in length, is expected to be completed early in January.

The War and the Germans as Viewed by Our Readers

[The Manufacturers Record owes an apology to its readers for publishing many letters of commendation in regard to its work in behalf of this country and of civilization. There could be no excuse for the publication of these strong commendations or tributes to the Manufacturers Record if it were not for the fact that we are giving them to our readers merely to help to broaden the nation's interest in these great questions. We are not publishing them from any sense of pride or egotism, or the desire to make public such whole-souled commendations as have been coming to this paper, for we realize too profoundly the seriousness of this hour to care for such things, but we are publishing them wholly for the purpose of letting others see how the spirit of patriotism is being awakened throughout the land and the need that yet is before us for welding into one homogeneous power all of the great resources in men and money and materials of this nation for its own salvation from eternal death under German domination.

This is our excuse for the letters which from week to week we are giving.—Editor Manufacturers Record.]

Nation Must Be Awakened to Deadly Peril of German Spy System.

F. C. KERNS, Sales Department, The Texas Company, Houston, Tex.

I have read with most hearty approval the many editorials and articles that have appeared in the MANUFACTURERS RECORD from time to time bearing the stamp of true Americanism.

Your comments on Mr. E. K. Victor's letter to you under date of September 13, published on page 55 of your October 11 issue, are certainly hot stuff, and that they are deserved is forcibly illustrated by a recent note in the press showing that the Victor warehouses at Richmond, Va., have been closed and Victor himself sent to an internment camp.

I appreciate, of course, that this recent development is well known to you by now, but it certainly is to my mind a striking proof of the soundness of the editorial policy of the MANUFACTURERS RECORD.

I sincerely hope there will be no let-up in your vigorous campaign to awaken this nation to the deadly peril of the German spy system.

Calls Every Man, Woman and Child to Sacrifice to Save Ourselves and the World.

JAS. O. SPINKS, Thomasville, Ga.

Please send me two of your pamphlets "America's Relation to the World War," for which stamps are herewith enclosed.

I have been reading the MANUFACTURERS RECORD for several months, and to my mind your paper is one of the most valuable published at this time.

Next to those at the front, I believe your service comes next among those who are doing the greatest service for our country, for I believe the work of superlative importance is that of shaping the minds of those who do not seem to realize the necessity of this country going to war with Germany, and if possible make them realize what we are up against, and the sacrifices every man, woman and child in the 17 countries now in war with Germany should make, and if necessary be willing to live poor for the next 40 years, for if we lose in this fight we shall all be poor indeed.

I verily believe and know you are doing a work of primary importance in setting the minds of the people right after they have been inoculated with the virus of deceit and treachery, spread abroad over our country by such persons as German intrigue could induce here and there. I am sorry that your paper cannot reach every home.

I wish your editorials could be republished in every paper in the country until every man, at least, could be aroused to the highest sense of patriotism, and say to our Government: "Here are my dollars for the Liberty loan, here is my boy for the army, here is my girl for the Red Cross," and when they do that Prussianism and Kaiserism will be sure to go.

I cannot conceive of how a man is made up, unless he is one of the "Kaiser's imps fresh from Berlin," who can keep the blood from boiling in his veins when he hears the story of how pure, sweet girls and innocent babies have fared in the hands of German soldiers, and how the very pick of womanhood has been sent into the Turkish harem, with every high ambition and noble purpose strangled for life. I believe if there is a Hell provided for the punishment of anything, there ought to be one in which to damn the one that is responsible for such horrible things. How can there ever be any peace until this brutal force has been put into everlasting oblivion? And when they cry for peace, when there is no evidence of a real desire for peace, may we

remember the soldier's ten commandments, where he is instructed to steel his heart against the brutal German force, and think of Edith Cavell, the Lusitania and all the diplomatic trickery that our Government has had to iron out of every crack and crevice of the United States, and when the time comes, give them such peace as they need and not such as they want.

I hope success will crown your every effort for the brave stand that you take in the great issues of the day.

I believe you are doing a monumental service.

Aroused to Necessity of Overthrowing German Barbarism.

R. K. STEWART, South Boston, Va.

On a Southern train the other day I met a man who told me that he was traveling one day and saw two children, little girls, sitting by themselves, little Belgian girls, and that on the seat at the side of them sat a little girl, an American girl, playing with some dolls. Her mother seeing the Belgian children looking with longing eyes on the dolls, suggested to her child that she let the Belgian children play with them, and as she handed the dolls to the Belgians, their guardian lifted the cloaks which covered their arms—"the hands of both children had been cut off by the Germans."

I have thought that could these children be exhibited on the platform at public meetings, that then the people of this country would realize just what may happen to them should Germany win out in this war, and that it would bring home to every man in the audience the awful realities of German barbarism.

What we need is more men like Dr. Hillis to wake up the sleeping Giant of the West; more men to say "this is my duty; to do all in my power, with my brain, my hands and my money to defeat Germany."

Something must be done to awaken the people to a true sense of the responsibility that rests on each one individually, and I feel that you are doing a glorious work in this respect.

I have heard many people say that they cannot afford to buy Liberty bonds, but I have figured it out this way: The second loan bonds pay about 4 per cent. net, and by buying these bonds and in case of necessity borrowing on same at, say, 6 per cent., the loss would be only 2 per cent., which amounts to only \$20 on the \$1000 invested.

That man is no patriot who is not willing to give, and give freely, in the proportion stated in order that this war may be brought to a speedy and successful conclusion.

Two years ago I predicted that the German Emperor would be hanged by the neck in front of the Palace in Berlin, and I am willing to do anything in my power to accomplish this. I am glad to notice that I am not alone in the belief that this will be his ultimate fate, as a lesson to future generations. May there be a reawakening of the spirit of our forefathers. The more we sacrifice ourselves now, the shorter will the conflict be.

An Old Man Gives Voice to Sad Thoughts.

EDWIN F. SURBER, care The Ruffner, Charleston, W. Va.

I wish to say a word in appreciation of your pamphlet, "America's Relation to the World War: Shall Our Nation Live or Perish?"

You seem to have stated the case a little better than anybody I have read after, and it is a pity that your presentation could not be read by the millions of our fellow-citizens who fail utterly to appreciate the seriousness of the situation, putting it mildly. Language is impotent and the human mind incapable of grasping the

full measure of our danger, of the danger to civilization.

I have a frail old mother living, in her ninetieth year, the granddaughter of a soldier of the American Revolution. Her mind has almost passed from her, save occasional lapses back to normal. From time to time I've tried to make her understand the war. Living in the Valley of Virginia '61 to '65, she was familiar with the war between the States. When I tried to tell her of the horrors of Belgium and the rest she refused utterly to credit my story, denied its truth, incomprehensible to her, and so it is to others, millions of others.

It does seem to me that you would be doing a great and patriotic service to use every ingenuity to extend your circulation amongst the country people, for the farmers hardly have time to read the dailies.

I am an old man, just fighting for an existence, which pro-youth would deny me; therefore I can't help you, save by suggestion.

When the Charleston (W. Va.) group of "selects" were assembled here they were such a motley-looking crowd, ragged, unkempt, looking worse than "Jackson's foot-soldiers," even at Appomattox, that I ventured to suggest to the Governor of West Virginia, Governor Cornwell, that the State provide a uniform; that is, we'll call it a "fatigue" uniform, which the men might wear to the mobilization camps. Let them go to the camps looking clean and spic and span; a loose gray or linsey woolsey blouse, gathered to a belt around the waist, with pants and cap or hat to match; shirt of wool, dark cotton-wool, soldiers' shoes. And let the Governor of the State provide for it out of his military contingent fund or Legislature.

Can't you make your Governor set an example?

It is a mighty little thing to do for these men who are being sent away, many to return no more forever, save when another generation will go to gather the story of their heroism and write it as their own inheritance, brushing away the dust and gathering the wild flowers and violets that will grow where the crimson tide of battle swept them into the sea and then into the ocean of eternity. By the many, those men, lone units, are flung away and forgotten—not so with the National Guard. In the old times, when the boy rounded out his 21 years of service he got a horse, a watch, an outfit of clothes and \$100 in gold, this among the well-to-do pioneers. It is true, when they got to camp "Uncle Sam" uniforms them, but there is the intermediate period, and then a "fatigue" uniform would come in handy in many ways.

If I knew a God to whom I could pray for your welfare and strength to your pen I would pray Him to help you, but His face seems hid in the cloud of war. Like the ancient Greeks, the personal gods seem the only ones that can be invoked. The Kaiser claims Him, and so it is I am lost in contemplation of the mystery of His presence amongst us.

We Have Already Slept Too Long.

W. S. TAYLOR, Chattanooga, Tenn.

Your article in last week's MANUFACTURERS RECORD, in connection with E. K. Victor's letter of September 13, was read by the writer with a great deal of pleasure and satisfaction.

Your suggestion that the Secret Service Bureau of the United States Government look into his activities was most timely, and you will note from the attached clipping from last Sunday's Chattanooga Times that they have been on his trail for some time. He is now confined in the detention camp at Fort Oglethorpe for the duration of the war, and we do not believe that you will have the pleasure of hearing from this "gentleman" again.

We will wake up some of these days to the real seriousness of the German propaganda in this country and

deal with these traitors in a manner befitting their crimes, although it is taking us a long time to get started.

Keep after them, Mr. Edmonds. You are doing splendid work.

Our "Tirades" Against Germans, Pro-Germans and All Who Oppose the Nation in Its Hour of Struggle Voice What We Really Believe, Even if Mr. Montgomery's Comprehension Cannot Take That Fact In.

R. E. MONTGOMERY, Lee Lumber Co., Memphis, Tenn.

Your letter in your issue of the 11th, in answer to mine of the 1st, is hardly worthy of an answer, as anyone who is so regardless of the proper courtesy and truthfulness as you are hardly merits a decent reply to anything he may say.

You evidently belong to the class of patriots for profit, and I do not profess to be one of these. Every word that I said I believe as firmly to be true as I believe that I am now living, and a vast amount of matters suggested in my letter could easily be proven to be facts.

It is hard to believe that you can by any flights of fancy imagine that you are serving your country in the class of stuff which you are writing.

It is very easy for you to say that a thing is not a fact, but I think it would be very difficult for you to show by any proof or valid argument that such is the case.

I wish that I could give you the credit to believe that your tirades are the result of misinformation, but it occurs to me that it is purely wilful perversity.

It Is Indeed a Life and Death Struggle and the Strangle Hold of the Fiends Are at Our Throat, While With Poisoned Stilettos They Stab Us in the Back.

D. C. TURNBULL, Estimate Engineer Dodge Manufacturing Co., Mishawaka, Ind.

Enclosed is check for \$2 for copies of "America's Relation to the World War," which I wish to place where a little light is still needed.

I have been reading your editorials on the war for some time, with increasing interest and profit, and thank God for the combination of a man with vision and conviction and ability to express the truth forcefully, together with a paper that does not fear to print those expressions.

The sooner we realize that this war is no dream, but that we are actually facing in a life and death combat a nation which has sold itself body and soul to the devil for a mess of Kultur, the better it will be for all of us. Your jarring has woke some of us up, and we are doing what we can to pass it along.

Ruthlessly Uproot Pro-Germanism in the United States.

DAVID R. SHEARER, Electrical Engineer, Johnson City, Tennessee.

The writer has been reading with much interest your timely articles on the great war dealing with the absolute inhumanity and savagery of the German nation. It is to be hoped that public opinion will be so aroused that pro-Germanism cannot exist in the United States, but will be ruthlessly torn out root and branch by those citizens who have the best interests of their country at heart. If all true Americans would do their duty toward acquainting the public with the horrible crimes which Germany has committed the country would speedily become uninhabitable for those pacifists and pro-Germans who are doing so much injury to our cause. It is the duty of every public-spirited man and woman to report immediately every pro-German utterance heard in business, on the streets or in the home, and to hold up to the public eye such an individual as will speak in a near-traitorous manner until he is forced to retract or move to more congenial quarters.

At the same time that we are rooting out the traitors to our country let us produce, build and in every manner possible develop our great resources to the utmost extent.

The South is marvelously rich in undeveloped fields which should be looked into and brought out for use in the present national emergency. No stone should be left unturned which will lead toward the economic advancement of the nation as a whole.

Punishment of Alien Enemy Deemed Inadequate.

H. B. MAHOOD, M.D., Emporia, Va.

Congratulations. Wish I could give you my name as a subscriber to take the place of the one refused (E. K. Vietor), but work as a village or country doctor will not allow me to give your journal the time and attention it is worthy of. Couldn't the influence enjoyed by you and your paper induce the Department of Justice to give Mr. Vietor a little more attention than an involuntary, protracted, pleasurable Georgia picnic in the winter time? **There is one tree in our town from which two better men have been hung, though one killed nine men in as many months.**

Let the good work go on.

Glories in the Fight Against Traitors.

S. B. FORMAN, New Orleans, La.

Replying to your letter of the 24th relative to my subscription to the MANUFACTURERS RECORD, beg to advise that not for \$100 would I be without your most valuable journal, and I will ask you to please keep on sending to same address.

I will continue to take more and more interest in securing subscribers for the best the world has in journalism, and I glory in you for the great and fearless fight you are giving those d—d Germans and traitors in our midst!

Opening the Eyes of the People.

J. E. GILBERT, Owensboro, Ky.

The writer has been reading with a great deal of interest the very patriotic and appealing editorials in the MANUFACTURERS RECORD.

Let this good work go on. You are opening the eyes of the people and bringing before them the real conditions that confront the nation.

Such articles as these, based on good, sound facts, are injecting patriotism into every reader and will be of much assistance to the nation in helping "beat the Huns."

Would Have Every Citizen a Reader.

S. A. THOMPSON, Secretary and Treasurer National Rivers and Harbors Congress, Washington, D. C.

I desire to express my most hearty appreciation of the intensely pro-American and anti-Hun attitude of the MANUFACTURERS RECORD. I wish it were possible to put a copy of the magazine into the hands of every citizen of the United States.

Uniting to Stamp Out Prussianism.

M. A. WARING, Estill, S. C.

Enclosed find check for \$1, for which send me 10 copies of "America's Relation to the World War." I wish every man, woman and boy could read your paper. I wish to distribute these among my neighbors, for every one of us should do all in our power to stamp out Prussianism. Your publication is doing a noble work.

Will Other Subscribers Follow Mayor Gibbs' Example?

J. R. GIBBS, Mayor, Winnfield, La.

I enclose herewith check for \$5 to cover one year's subscription to the MANUFACTURERS RECORD and 10 copies of "America's Relation to the World War."

The latter should be sent to me, but the subscription is for Mr. A. J. Gwin, Box 52, Winnfield, La., whom I have induced to subscribe for the MANUFACTURERS

RECORD. He operates a brick manufacturing plant at this place of about 40,000 daily capacity.

I am sorry that more of the rank and file do not have the opportunity to read your well-balanced editorials. However, your pamphlet of "America's Relation to the World War" will and is doing a wonderful work toward waking up the indolents.

Doing Invaluable Service to the Country.

T. J. SHELTON, Traffic Manager the Arkansas & Louisiana Midland Railway Co., Monroe, La.

I cannot refrain from expressing a word of commendation of and appreciation for the splendid issue of the MANUFACTURERS RECORD of date October 18.

Especially good is the message you addressed to the business men of America under caption "Quit You Like Men, Be Strong and of Good Courage."

May I not also say that I believe you are doing an invaluable service to the country by publishing in full the address delivered by Rev. Newell Dwight Hillis. It seems to me that if anyone can read the statements made by Dr. Hillis and then refuse to buy Liberty bonds that man is utterly heartless.

The people of Monroe and Ouchita parish are taking steps to have a parish-wide meeting in Monroe on October 24, and I feel sure that after that meeting is held our people will not hesitate to come in with their quota.

They should heavily oversubscribe, and I sincerely hope we will be able to report this.

With best wishes for the MANUFACTURERS RECORD.

Awakening the Country from Lethargy.

GRACE M. CHENEY, Kansas City, Mo.

Please find enclosed 20 cents, for which kindly send me two copies of "America's Relation to the World War—Shall Our Nation Live or Perish?"

This is the most clear-cut and finest exposition of the true American spirit I have seen, and in every word rings the same viewpoint that has so endeared Colonel Roosevelt to many since he began the campaign of trying to awaken us from our lethargy to realize our danger as it is.

The two copies above mentioned are going to those whom I shall try to convert to our way of thinking.

Wants Information About True Condition.

ETHAN PHILBRICK, Baldwin, Ga.

Enclosed please find check for \$3 to cover subscription to December 14, 1917, and for 10 copies "America's Relation to the World War." If I could not get the MANUFACTURERS RECORD with its wise editorials in any other way, I would be willing to cut my ration expenses in half until I had saved enough to pay for the paper.

Why will not other editors try to make the people see the true condition of affairs?

Editorials Show True Patriotism.

H. C. ATWATER, Civil Engineer, New York, N. Y.

I should like to express my deep appreciation of the splendid stand which your magazine is taking at the present time. There is no other newspaper or magazine in the country, in my opinion, whose editorials can compare with yours for true patriotism.

Another Claimant for Early Honors.

E. B. PUGH, General Superintendent Newcomb Lifeboat Co., Inc., Shipbuilders, Hampton, Va.

In your issue of October 11, page 68-1, appears a short article concerning two claimants of the honor of having laid the first keel for the United States Shipping Board wooden fleet.

In this connection we ourselves claim at least equal honor with McBride & Law, general contractors, Beaumont, Tex., as we completed laying the keel for hull No. 173 at 9:33 A. M. August 25.

We congratulate you on your pamphlet, "America's Relation to the World War," and we heartily wish for more power to the brain and hand responsible for your numerous editorials on timely subjects.

RESULTS OF PHYSICAL TESTS OF SLAG, STONE AND GRAVEL USED IN CONCRETE.

| NAME OF MATERIAL W.E.D. | WEIGHT PER CU. FT. OF MATERIAL USED | PERCENT OF VOIDS IN MATERIAL USED | PERCENT PASSING SIEVE AS RECEIVED | | | | | 14 DAY TESTS | | | | 30 DAY TESTS | | | | 60 DAY TESTS | | | | 180 DAY TESTS | | | |
|--|--|--|--------------------------------------|-------|-------|--------|-------|---------------------|-------------------------------------|---|--|---------------------|-------------------------------------|---|--|---------------------|-------------------------------------|---|--|---------------------|-------------------------------------|---|--|
| | | | 1/4 | 1/2 | 3/4 | 1 | 1 1/2 | MARK ON CYLINDER | WEIGHT OF CYLINDER (LBS. OZ.) | CRUSHING STRENGTH IN LBS. PER SQ. IN. | AVERAGE CRUSH ING STRENGTH IN LBS. PER SQ. IN. | MARK ON CYLINDER | WEIGHT OF CYLINDER (LBS. OZ.) | CRUSHING STRENGTH IN LBS. PER SQ. IN. | AVERAGE CRUSH ING STRENGTH IN LBS. PER SQ. IN. | MARK ON CYLINDER | WEIGHT OF CYLINDER (LBS. OZ.) | CRUSHING STRENGTH IN LBS. PER SQ. IN. | AVERAGE CRUSH ING STRENGTH IN LBS. PER SQ. IN. | MARK ON CYLINDER | WEIGHT OF CYLINDER (LBS. OZ.) | CRUSHING STRENGTH IN LBS. PER SQ. IN. | AVERAGE CRUSH ING STRENGTH IN LBS. PER SQ. IN. |
| SLAG, CLEVELAND, MACADAM CO. CENTRAL FURNACE CLEVELAND, OHIO | 66.5 | 49.2 | 99.35 | 83.70 | 48.20 | 16.10 | 2.40 | 9 | 62 8 | 1897 | 1941 | 10 | 63 3 | 2461 | 2525 | 8 | 63 00 | 2813 | 2930 | 7 | 62 10 | 3740 | 3753 |
| | | | | | | | | 18 | 62 10 | 1998 | | 33 | 63 10 | 2770 | | 13 | 62 15 | 2966 | | 3 | 62 5 | 3958 | |
| | | | | | | | | 29 | 63 5 | 1928 | | 28 | 62 14 | 2343 | | 26 | 62 13 | 3008 | | 8 | 63 0 | 3360 | |
| SLAG, DUQUESNE SLAG PRODUCTS CO. DUQUESNE, PA. | 78.5 | 42.74 | 96.70 | 83.70 | 64.40 | 32.80 | 3.50 | 9 | 65 10 | 2212 | 2139 | 10 | 66 00 | 2423 | 2657 | 4 | 65 6 | 3143 | 3117 | 7 | 64 12 | 4280 | 4315 |
| | | | | | | | | 18 | 65 13 | 2318 | | 17 | 64 4 | 2983 | | 13 | 65 6 | 3402 | | 16 | 65 10 | 4464 | |
| | | | | | | | | 28 | 65 8 | 1946 | | 27 | 65 1 | 2362 | | 22 | 65 4 | 2810 | | 23 | 64 5 | 4200 | |
| SLAG, CARNEGIE STEEL CO. YOUNGSTOWN, OHIO | 79.3 | 43.15 | 97.10 | 84.10 | 41.50 | 11.50 | 3.50 | 9 | 65 4 | 2346 | 2134 | 10 | 65 8 | 2642 | 2657 | 7 | 66 4 | 3623 | 3306 | 2 | 65 10 | 3680 | 4154 |
| | | | | | | | | 18 | 64 10 | 2128 | | 17 | 64 00 | 2368 | | 12 | 65 10 | 3220 | | 16 | 65 00 | 4130 | |
| | | | | | | | | 27 | 65 4 | 1928 | | 28 | 64 10 | 2761 | | 22 | 65 12 | 3074 | | 20 | 65 5 | 4452 | |
| SLAG, MORTON WESTERN IRON COMPANY, MAYVILLE, W. VA. | 64.5 | 45.87 | 96.10 | 63.20 | 37.38 | 19.00 | 1.60 | 2 | 62 12 | 2238 | 2206 | 3 | 63 00 | 2640 | 2653 | 3 | 62 5 | 3523 | 3403 | 1 | 62 15 | 4146 | 4309 |
| | | | | | | | | 12 | 62 12 | 2141 | | 13 | 62 12 | 2630 | | 21 | 63 00 | 3363 | | 4 | 62 8 | 4268 | |
| | | | | | | | | 22 | 63 4 | 2238 | | 23 | 63 4 | 2688 | | 28 | 62 11 | 3320 | | 6 | 63 0 | 4512 | |
| SLAG, STANDARD SLAG COMPANY, SHARPSVILLE, PA. | 75.0 | 41.53 | 92.40 | 69.10 | 40.30 | 17.80 | 3.50 | 2 | 65 14 | 2477 | 2484 | 3 | 65 00 | 3127 | 3075 | 10 | 65 11 | 3339 | 3365 | 1 | 64 11 | 4906 | 4803 |
| | | | | | | | | 12 | 65 3 | 2580 | | 13 | 65 00 | 2999 | | 18 | 65 00 | 3468 | | 5 | 65 3 | 4678 | |
| | | | | | | | | 28 | 64 14 | 2594 | | 27 | 65 00 | 3100 | | 21 | 64 13 | 3268 | | 9 | 64 11 | 4624 | |
| GRAVEL, ALLEGHENY RIVER PITTSBURGH, PA. | 104.5 | 31.85 | 80.20 | 58.30 | 30.60 | 21.945 | | 2 | 69 2 | 2045 | 2046 | 3 | 68 13 | 2608 | 2510 | 6 | 68 13 | 3427 | 3295 | 7 | 68 14 | 4200 | 3969 |
| | | | | | | | | 12 | 68 13 | 2093 | | 13 | 68 9 | 2514 | | 21 | 69 2 | 3170 | | 9 | 68 9 | 3816 | |
| | | | | | | | | 22 | 68 11 | 2000 | | 23 | 68 15 | 2409 | | 27 | 68 13 | 3289 | | 19 | 69 1 | 3892 | |
| SLAG, CLEVELAND MACADAM CLEVELAND FURNACE CLEVELAND, OHIO | 64.0 | 46.77 | 100.0 | 88.50 | 57.20 | 14.50 | 4.10 | 2 | 62 4 | 2387 | 2257 | 1 | 62 2 | 2810 | 2844 | 3 | 61 10 | 3167 | 3288 | 6 | 61 15 | 4388 | 4394 |
| | | | | | | | | 12 | 62 4 | 2237 | | 11 | 61 8 | 3057 | | 14 | 62 1 | 3126 | | 13 | 61 14 | 4422 | |
| | | | | | | | | 22 | 61 11 | 2146 | | 21 | 62 5 | 2666 | | 24 | 61 2 | 3068 | | 16 | 61 9 | 4172 | |
| SLAG, BIRMINGHAM, SLAG & EMBLEY, ALA. | 83.8 | 42.00 | 98.40 | 82.80 | 48.70 | 15.70 | 2.90 | 2 | 66 13 | 2043 | 2109 | 1 | 66 9 | 2660 | 2752 | 8 | 64 00 | 3270 | 3289 | 3 | 66 2 | 4432 | 4451 |
| | | | | | | | | 10 | 66 00 | 2160 | | 11 | 66 00 | 2800 | | 17 | 66 9 | 3354 | | 4 | 66 9 | 4460 | |
| | | | | | | | | 21 | 66 10 | 2126 | | 20 | 67 2 | 2796 | | 23 | 66 5 | 3244 | | 7 | 66 7 | 4460 | |
| TRAP ROCK, BIRDSDORF, PA. | 98.7 | 41.93 | 96.80 | 87.10 | 62.80 | 21.10 | 2.00 | 2 | 72 8 | 2109 | 2063 | 1 | 72 6 | 2454 | 2386 | 9 | 72 6 | 3411 | 3360 | 3 | 72 13 | 4814 | 4819 |
| | | | | | | | | 12 | 73 1 | 2053 | | 11 | 73 5 | 2330 | | 13 | 72 12 | 3416 | | 6 | 72 12 | 4738 | |
| | | | | | | | | 22 | 72 5 | 2026 | | 21 | 72 9 | 2374 | | 20 | 72 8 | 3256 | | 7 | 72 14 | 4906 | |
| GRAVEL AKRON OHIO | 95.0 | 35.9 | 99.40 | 88.20 | 60.30 | 23.20 | 3.26 | 2 | 68 00 | 1793 | 1795 | 1 | 66 13 | 2040 | 2078 | 8 | 67 12 | 2756 | 2554 | 3 | 68 5 | 3636 | 3627 |
| | | | | | | | | 12 | 68 7 | 1800 | | 11 | 67 9 | 2040 | | 16 | 68 2 | 2578 | | 4 | 68 9 | 3840 | |
| | | | | | | | | 22 | 67 10 | 1792 | | 21 | 67 8 | 2153 | | 28 | 67 14 | 2527 | | 16 | 68 0 | 3404 | |
| CRUSHED GRANITE STOCKBRIDGE GEORGIA | 90.0 | 42.34 | 97.40 | 84.30 | 53.30 | 25.00 | 5.00 | 11 | 69 00 | 1980 | 2122 | 1 | 69 00 | 2230 | 2292 | 3 | 69 2 | 3112 | 3043 | 8 | 69 6 | 4190 | 4151 |
| | | | | | | | | 21 | 68 00 | 2178 | | 12 | 68 4 | 2334 | | 16 | 69 00 | 2760 | | 17 | 69 0 | 4016 | |
| | | | | | | | | 22 | 69 8 | 2208 | | 22 | 69 8 | 2313 | | 19 | 69 8 | 3258 | | 23 | 69 5 | 4248 | |
| SLAG, DUQUESNE SLAG PRODUCTS CO. PITTSBURGH, PA. | 73.75 | 43.55 | 98.62 | 90.20 | 70.02 | 36.09 | 3.60 | 1 | 63 00 | 2151 | 2187 | 2 | 64 2 | 2738 | 2650 | 5 | 63 8 | 3245 | 3289 | 27 | 63 5 | 4210 | 4184 |
| | | | | | | | | 12 | 64 00 | 2167 | | 11 | 63 6 | 2600 | | 14 | 63 00 | 3244 | | 4 | 63 6 | 4205 | |
| | | | | | | | | 22 | 63 00 | 2244 | | 21 | 63 00 | 2613 | | 24 | 63 8 | 3378 | | 3 | 63 0 | 4140 | |
| SLAG, FRANCE SLAG COMPANY, EAST TOLEDO, OHIO | 81.75 | 42.5 | 90.9 | 64.90 | 38.50 | 29.00 | 20.00 | 2 | 65 13 | 1918 | 1942 | 1 | 66 7 | 2527 | 2536 | 7 | 66 3 | 3251 | 3103 | 3 | 66 4 | 4130 | 4164 |
| | | | | | | | | 12 | 66 14 | 1856 | | 11 | 66 4 | 2402 | | 16 | 66 5 | 2864 | | 9 | 66 15 | 4333 | |
| | | | | | | | | 21 | 66 10 | 2031 | | 22 | 66 4 | 2680 | | 20 | 66 4 | 3195 | | 13 | 65 6 | 4030 | |
| LIME STONE, GATES CITY, ALABAMA | 94.87 | 40.33 | 100.0 | 98.90 | 83.30 | 43.40 | 6.00 | 1 | 69 8 | 1670 | 1713 | 3 | 69 9 | 1985 | 1988 | 2 | 69 6 | 3149 | 3082 | 4 | 70 0 | 3936 | 4127 |
| | | | | | | | | 6 | 69 8 | 1750 | | 10 | 69 8 | 1950 | | 15 | 68 13 | 3014 | | 8 | 69 6 | 4636 | |
| | | | | | | | | 7 | 71 0 | 1720 | | 23 | 69 8 | 2030 | | 22 | 69 00 | 3072 | | 9 | 68 12 | 3814 | |
| DOLOMITIC LIMESTONE, KELLY ISLAND CLEVELAND, OHIO | 94.11 | 38.71 | 100.0 | 96.04 | 70.11 | 50 | 5.20 | 4 | 69 11 | 1830 | 1804 | 1 | 69 16 | 2269 | 2360 | 2 | 70 00 | 3303 | 3604 | 3 | 70 0 | 4640 | 4724 |
| | | | | | | | | 13 | 69 7 | 1814 | | 12 | 69 14 | 2442 | | 17 | 69 12 | 3846 | | 19 | 70 0 | 5011 | |
| | | | | | | | | 23 | 69 0 | 1769 | | 24 | 69 00 | 2373 | | 22 | 70 12 | 3462 | | 27 | 69 0 | 4380 | |

NOTE—Above tests carry Pittsburgh Testing Laboratory numbers in consecutive order as follows: 87410, 87420, 87430, 87440, 87450, 87460, 87470, 87480, 87490, 87500, 87510, 87520, 87530, 87540, 87550.

Compression tests made using 8"x16" cylinders, 1-2 Mix—Alpha cement selected by lot. Ohio River sand. Large aggregates as shown above.

\$7,000,000 Crop of Bermuda Onions Predicted for Texas.

Cotulla, Tex., October 19—[Special.]—Bermuda onion farmers of South Texas are preparing to plant the largest crop that has ever been grown in this State. The young plants are already up in the seed beds and are doing nicely. They will be transplanted into the fields next month. It is estimated that there will be more than 12,000 acres devoted to Bermuda onions in the Rio Grande border region this season. This will be an increase of about 4000 acres over last season's crop.

Of the total area in onions, there will be about 7000 acres in the vicinity of Laredo. The remaining acreage will be chiefly in the Cotulla and Brownsville sections.

It is expected that the coming season's crop will sell for even higher prices than those which prevailed during the past season. Basing the possible revenue on present prices, the crop should bring to the growers approximately \$7,000,000. In several instances large fortunes were made by growers from their last spring's crop of Bermuda onions. Net clean-ups ranging from \$30,000 to \$50,000 each were made by growers off of comparatively small acreages. The average Bermuda onion farm ranges in size from 10 to 20 acres, and in some cases there was as much as 50 to 100 acres devoted to the crop by one grower. When the fact is considered that it was not unusual last year for a farmer to obtain net proceeds of \$400 to \$600 per acre from his onion crop, the profitability of the industry may be understood.

Although the onion-growing territory is in the heart

of the region that has experienced an almost unbroken drought for more than two years, the absence of rainfall has nowise curtailed the production of the farms. It is necessary to grow the onions by irrigation. In the Laredo district the water for irrigating the farms is obtained from the Rio Grande by means of pumping plants. This is also true of the Brownsville section. In the Laredo district the water supply for irrigation is obtained from the Nueces River, and to the west of here artesian wells afford an ample quantity for the purpose.

The wealth which the Bermuda onions have brought to this former desolate region has caused a transformation in the physical aspect of the country and of the towns. It is claimed that Laredo possesses more money per capita than any town of similar size in the United States. It is a veritable onion metropolis. The vaults of the banks there are overflowing with money that was obtained from the sale of the onion crop.

Before the discovery was made that Bermuda onions could be grown successfully in the alkali desert soil of that section, the land there was regarded as worthless and could be bought in vast areas for as low as 50 cents to \$1 per acre. This same land, under the benign influence of water and sun, has yielded such enormous revenues each year from the Bermuda onion crop that its intrinsic value based on its producing properties would be difficult to estimate. As a matter of fact, none of it is upon the market. One thing with another, it brings in a good percentage of revenue on a valuation of \$4000 to \$5000 per acre as compared with the 50 cents to \$1 per acre for which it could have been bought only a few years ago.

Breakfast Food from Southern Sweet Potatoes

Moss Point, Miss., October 20—[Special.]—Sweet potatoes, in the opinion of O. E. Hodge, president of the Hodge Ship Co. of Moss Point, will make a high-class breakfast food. Mr. Hodge believes that it would be good policy for the United States Department of Agriculture to develop a process for making breakfast food from sweet potatoes as a war conservation measure. Mr. Hodge points out that, in addition to supplying an abundance of cheap, wholesome food, the development of the process would bring a string of breakfast-food factories to the South. At the same time it would broaden the market for the sweet potato, which has its natural home in the South. When peace is restored this would be of great benefit to the farmers. The food factories would furnish home markets for sweet potatoes.

The territory north of Moss Point, along the Pascagoula River, according to the view of Mr. Hodge, could be converted into one of the best rice-producing sections of the United States. The land is level, and could be easily and cheaply irrigated from the Pascagoula River or by the use of artesian wells. Mr. Hodge believes that those who are seeking locations where they can go into the rice-growing business could not find a better section than the Moss Point district.

The Japan Times states that in 10 years, 1907-1917, Japan has increased its output of copper 160 per cent.; lead, 269 per cent.; iron, 194 per cent.; coal, 93 per cent.; petroleum, 66 per cent.; sulphur, 219 per cent.

Interstate Highways Urged at Southern Appalachian Road Meeting

[Special Correspondence Manufacturers Record.]

Nashville, Tenn., October 19.

"There is enough idle land in the State of Tennessee to feed this nation which cannot be farmed until you get better roads to it. We must not only feed this nation, but the nations in the war, and the critical part is the road between the farmer and the market," said A. D. Williams, chairman-engineer, West Virginia Road Commission, at the ninth annual convention of the Southern Appalachian Good Roads Association, held at Nashville, Tenn., October 16-18. Prof. R. D. Kneale, State Highway Commissioner, Atlanta, Ga., speaking at the closing session of the meeting, said: "At no time in our history has the tax of inadequate transportation played so important a part in our economies as now," citing the cost of some commodities in substantiation.

"There is not a strategic point in the United States from the Canadian border to the Gulf of Mexico that has a road or bridge that can move a modern army. It is necessary in the scheme of preparedness for this nation to have a system of military roads," was the statement of John Craft, Mobile, Ala., at the second day's session, while on the third day D. M. Clark, Greenville, N. C., said that the Southeastern section of this country should by all means be connected up with a system of national roads for the quick movement of troops in the event that our Southern shores should be attacked.

Around these two ideas, with the fundamental undercurrent of interstate roads, was the discussion of the meeting built.

Governor Tom C. Rye, Tennessee, welcomed the delegates, expressing the belief that the meeting would be helpful to the State of Tennessee as well as to all the contiguous territory, and Dr. C. S. Brown extended the welcome on behalf of the Nashville Automobile Club, under whose auspices the convention was held. Dr. Brown said that \$20,000,000 had been spent in Tennessee in the last 10 years; that the State had \$3,000,000 available during the next four years, to which would be added \$1,750,000 that would come from Federal aid; that the required materials were at hand, and that the prime need of the Southern section was good roads, particularly those connecting centers between States.

Henry Roberts, president of the Southern Appalachian Goods Roads Association, said there must be more concerted action than there had been; that Southern men must get away from the idea that they were self-sufficient; they must learn what they had at home, and wake up to the possibilities that lay around them in order that they might be active and industrious in spreading the news elsewhere, so that people from other sections might be attracted. Mr. Williams echoed this sentiment, and said that a stranger passing through a country invariably formed his opinion of it by the hospitality of the people, the appearance of the school-houses and churches, and by the condition of the roads, and Senator E. N. Haston, in his remarks expressing sympathy with the good roads movement, said that good roads are the only hope of the inland counties.

J. T. Bullen, District Engineer, United States Office of Public Roads, speaking on road maintenance, said that a good many people had the idea that when a road was built it would just naturally take care of itself. He described the distinction between maintenance and repairs as being, on the one hand, those operations that are necessary to keep a road to type, and on the other, those operations that, after a road has been neglected and allowed to deteriorate, are necessary to restore it. He said it was fairly easy to get a community to make an investment for roads, without, however, making any provision for maintenance, and that it was a better business proposition to lay aside annually some of the road appropriation for maintenance rather than to wait a few years and permit a road to deteriorate and then try to get a separate sum of money for renewals.

D. H. Winslow of the Highway Department of North Carolina spoke on gravel, sand, clay and earth roads, urging that proper provision be made for supplies along the roads, and saying that in his State additional

road money had been refused until it was learned how to care for the roads already built.

Under the general subject of State-maintained road systems, addresses were made by J. Parks Worley, Senator of Tennessee, speaking for the farmer; Miss Josephine A. Pearson, president Ladies' Auxiliary, Dixie Highway, Cumberland Divide, for the women; John E. Edgerton, president Tennessee Manufacturers' Association, from the industrial and commercial standpoint, and by Arthur Crownover, chairman Tennessee Highway Commission, from the standpoint of the State.

Assistant Chief Engineer Norcross of the United States Forest Service said that good roads and trails were needed in the forests, and that the Service is vitally interested in them. We have to have good roads and trails to get out the lumber which we sell, and to enable the sheep herders to get supplies to their flocks; also they are necessary in the event of forest fires to get men and equipment quickly to the place where the fires are to be fought. The roads we build are narrow, which is all the region requires; they are on good grades and are well provided for drainage, and we try to plan for subsequent widening as traffic may demand.

John Craft asked the association to endorse the Chamberlain-Dent Highway bill, and to use personal effort with representatives at Washington in its behalf. He spoke of the important part good roads had played in the present war and some others, and the value of good roads to a community by reason of tourist travel, saying that a system of military roads would serve farmers, merchants and tourists.

G. M. Ingram of the Southern Bitulithic Co., who presided at the session in which this address was made, said this matter was one of the most important that had come before the convention, and the subject was referred to the committee on resolutions, who subsequently reported favorably on it. Prior to the adoption of the resolution, A. G. Batchelder, executive chairman of the American Automobile Association, explained in part the operation of the proposed measure and the reasons for its consideration. He said that at the present time the Secretary of Agriculture has no authority to build roads for military purposes; the Secretary of War has no authority to build any road for any purpose; the States and counties have no money. The War Department ought to have some authority over roads where military movements might be affected. This measure gives to the Secretary of War, acting on the advice of his engineers, the power to recommend that certain roads, which he will select as having definite military value, will receive attention on consulting with the highway departments of the States. In general, the idea is that of nation-wide roads, Federally built and Federally maintained.

C. B. Scott, Assistant Highway Commissioner of Virginia, read an interesting report of his experience with convict labor in road construction and maintenance, presenting some figures to show what had been accomplished with this class as compared with free labor and describing the construction of labor camps and the care of convicts. The cost of road work was relatively low when convicts were employed, and it was possible to work them all winter, owing to the mildness of the climate, even as far north as his State.

In the discussion that followed it developed that in more than one State the passage of "bone-dry" laws had reduced the number of convicts, in one State the figure being from 50 to 60 per cent. In the circumstances, one speaker suggested that the amount of money saved to the State by the lessened number of convicts to be cared for might be diverted with good effect to road work.

Dr. A. H. Purdue, State Geologist of Tennessee, made an able address on the road materials to be found in that State.

Malcolm H. Crump, Bowling Green, Ky., spoke about the rock asphalt found in his State. He said that some of it had been brought to Nashville as long as 30 years ago, but that the material had been before the public particularly in the last two years. He described it as existing in enormous quantities in beds from 5 to 50 feet thick as a sharp sand, each face of each grain

being coated with bitumen, and that the only problem connected with it was to get the material out, as it was not near a railroad and had to be brought out by river. He said the area covered by the material was 30 miles long and 10 miles wide, and that there was, therefore, enough of it to surface every road in the Mississippi Valley. A road surfaced with it should last for 10 years with very little maintenance.

A. G. Batchelder, speaking on the subject of Federal aid, said that good roads were an investment for any State, and quoted the experience of New York, where, he said, there had been spent last year by automobile tourists from \$15,000,000 to \$18,000,000, which was a good return on the \$100,000,000 spent by the State for the roads. He gave the figures for a number of States, showing what the tax was for building and maintaining roads, and quoted some statistics to show the tremendous growth of automobile travel, both pleasure and business, along some well-known roads. Mr. Batchelder made the suggestion, which was later commented on by other speakers, that a way might be found to use interned Germans for road work, and in the event of the passage of the Chamberlain-Dent bill that the Secretary of War might be authorized to employ them. And, speaking of the Federal-aid law, he said that it would doubtless continue effective if, in operation, it meant that real roads affording communication between States were projected, the States making their plans under a State tax that would allow the stronger counties to aid the poorer ones, the whole proposition being one that would bring people into the territories affected through a big plan of connected roads.

A. D. Williams spoke on closer co-operation between States in highway plans and standardization of road work, saying a large sum of money could be saved the Southern States by a complete system of co-operation between them; i. e., between the highway departments of the entire country, whereby the experience of one engineer might be available to other engineers, and where the plans of one might be used by others under similar conditions. He said the Federal-aid law will be of benefit to the various States, but the biggest aid will not be the \$75,000,000 provided by that Act, but will be the general scheme of standardization that will necessarily ensue under its operation.

D. M. Clark, Greenville, S. C., spoke on uniform financing for roads, explaining a bill introduced by him in his State. This law provides for the issuance semi-annually of bonds in the amount of \$400,000 at 4 per cent., the money being loaned to the county or township applying for it at 5 per cent. The difference of 1 per cent. goes into a sinking fund for the reduction of each subsequent semi-annual issuance. The bonds run for 41 years. At the end of 40 years the amount of the 1 per cent. sinking fund amounts to \$397,298.42, leaving only \$2,701.58 of new money required to make up the next semi-annual issuance, and at the end of the bond period the bonds are retired with a surplus amount of money that can be diverted to another purpose. In general, the plan is to use the credit of the State in borrowing. If the plan could be extended, the credit of the National Government might be utilized for the benefit of the States, and through them extending down to the counties or townships.

The closing session was devoted to a discussion of economic roads, Prof. R. D. Kneale, Atlanta, Ga., speaking on bituminous roads; G. R. Ramsey, Orlando, Fla., on brick roads, and Burdette Woodyard, Parkersburg, W. Va., on concrete roads. Mr. Kneale gave a number of figures to show the economy of bituminous roads, and said their biggest merit lay in the fact that they could be continuously maintained at low cost. Mr. Ramsey made a statement of the quantities and extent of various kinds of road laid in Florida and the results of tests made on brick pavement. Mr. Woodyard spoke of his experience with concrete roads, but prefaced his paper with the statement that local conditions in all cases would determine the character of the road to be built. He advocated 14-foot roads as a means of reducing speed and minimizing careless driving.

During the sessions reports were made of inspection tours along some of the highways, and progress reports were presented by representatives of highway departments of various States.

The officers elected for the ensuing year are:

President, A. D. Williams, Morgantown, W. Va.
Secretary-Treasurer, H. H. Jones, Nashville, Tenn.
State Vice-Presidents: T. E. Patterson, Atlanta, Ga.; D. M. Clark, Greenville, N. C.; Burdette Woodyard, Park-

ersburg, W. Va.; J. M. MacBeath, Meridian, Miss.; G. R. Ramsey, Orlando, Fla.; S. G. Hitchens, Baltimore, Md.; Peter L. Atherton, Louisville, Ky.; John Craft, Mobile, Ala.; R. T. Brown, Columbia, S. C.; Z. D. Dunlap, Nashville, Tenn.

Executive Committee: C. B. Scott, Richmond, Va.; James Maret, Mt. Vernon, Ky.; J. J. Murray, Nashville, Tenn.; F. H. Murray, Columbia, S. C.; W. S. Keller, Montgomery, Ala.; R. D. Kneale, Atlanta, Ga.; H. B. Varner, Lexington, N. C.; W. S. Fallis, Raleigh, N. C.; Henry R. Shirley, Baltimore, Md.; N. A. Kramer, Jackson, Miss.; W. F. Coker, Tallahassee, Fla.; Henry Roberts, Bristol, Va.; A. G. Batchelder, Washington, D. C.; Dr. M. H. Fletcher, Asheville, N. C.

Following the election, announcement was made that the next annual meeting would be held in Asheville, North Carolina.

The Nashville Automobile Club, Dr. C. S. Brown, president, was the host of the convention. The arrangements made by it were entirely adequate for the occasion. Credit must be given to the convention secretary, H. H. Jones, for his work in connection with the meeting.

CANADIAN MUNITIONS COMPANY MAKING TRACTORS.

May Establish Branch Plant in the South.

Looking to the time when war will have ceased to command so much of industry, the Canada Nitro-Products, Ltd., Toronto, Canada, has taken up the development of a tractor specially designed for agricultural work. It is known as the "Rein-Drive Tractor," deriving its name from the fact that it is driven and controlled by a pair of reins. The tractors are being manufactured by the Rein-Drive Tractors, Ltd., Toronto, the same people who are identified with the Canada Nitro-Products.

Col. W. F. Mason McCarty, an ex-Confederate officer who has been identified with industrial and engineering enterprises in this country and abroad, who is one of the founders of the Canada munitions making concern, writes the MANUFACTURERS RECORD that his company has taken up the construction of a tractor which he believes will help to solve the labor question to a great extent in the South. He stated that the "Rein-Drive Tractor" recently gave a wonderful exhibition under actual working conditions at the great Canadian Fair. By actual test he said the machine does the work of five men and ten horses. Colonel McCarty writes that he is interested in the new company and will take the agency of the Southern States and probably make Baltimore his headquarters and will erect a factory, perhaps near to Baltimore, and that he is coming South to look into a site.

As will be seen from the accompanying illustration, the "Rein-Drive Tractor" is a departure from general tractor construction. It is a one-man outfit, adaptable to all classes of field work, and in addition it may be used as a stationary power plant, being provided with a belt pulley for running any belt-driven machine requiring not over 20 horse-power to operate.

Outstanding features in construction and operation of this "real iron horse" are that it is a two-wheel balanced tractor, with its power plant swung between the wheels, and the whole controlled by two reins. Its peculiar construction allows it to turn in a small space (a circle 6 feet 4 inches in diameter), therefore the ground lost in turning and working in fence corners is negligible.

The machine with trailing wheel is 11 feet long, and has a ground clearance of 14 inches.

One of the unique features is the tractor's method of control. All movements of the tractor, forward and backward and steering, are controlled by two reins held in the hands, the same as horse driving. The manufacturers claim that using reins is the logical way of driving, as the reins can be shortened or lengthened at will, and being flexible they relieve the operator of strong vibrations while going over uneven ground. It is a significant fact that the farmer feels more at home with a pair of reins in his hands. Though this may not be the case with all farmers, because farmers are fast using more and more motor cars, it still applies generally to the hired help.

The steering mechanism is said to be simple and positive, and the tractor will follow along in the furrow without attention from the operator. The operator rides upon the attached implement, wagon, plow or other tool, within full view of his work and allows him to control both the tractor and the implement.

The heart of any tractor, the power plant, is well taken care of in the "Rein-Drive Tractor." It consists of a conventional four-cylinder internal combustion valve-in-head type, water-cooled motor of rugged design developing 30 horse-power, with a drawbar pull of 10 horse-power and 20 horse-power belt drive. It is especially designed to burn kerosene, and is said to be economical in operation, though gasoline or distillate may be used if preferred.

On account of the peculiar design of the tractor, the transmission does not follow usual types, but is claimed to be extremely efficient. Its range of operation allows for three speeds forward and three speeds reverse, running the tractor from 1½ miles for traction, 2½ miles for plow, up to 4 miles per hour for high or road speed.

The British Government has accepted an offer of 100 machines for use in helping to increase the food supply, and they are reported to be doing excellent work.

Peanut Acreage in Texas Expected to Be Vastly Increased at Expense of Cotton.

Austin, Tex., October 20.—[Special].—Although, according to the United States Government report, there was a falling off of approximately 900,000 bales in the amount of cotton ginned in Texas for the present season up to October 1 as compared with a similar period of last year, it is believed that the shortage of the crop in this State will be considerably more than is indicated by this ginning record. One reason for this conclusion is that the extremely dry weather that has prevailed over a greater part of the State caused the bolls to open unusually early and the picking is much further advanced than in an ordinary year.

The hope that was held out a few weeks ago, when there promised to be a breaking of the drouth by scattered showers that then fell, that there would be a good top crop of cotton have gone by the board. Instead of the drouth having ended, it has become more distressing than ever in Central and South Texas and covering a good part of West Texas. The cotton crop, except in the territory extending north from about the middle of the State, was practically a failure. Some estimates placed the total yield of the State this year as low as 2,800,000 bales. This view, however, is regarded as too

pessimistic, but it seems to be sure that the total yield will not exceed 3,200,000 bales.

As a result of the movement that was inaugurated by the Farmers' Union looking to the fixing of the minimum price of cotton at 30 cents, farmers are holding a considerable quantity of the staple for that price. Notwithstanding the heavy Government traffic which the railroads are being called upon to perform, there has been no serious shortage of cars for moving cotton up to this time.

The short crop will be largely made up, so far as the revenue is concerned, by the extraordinarily high prevailing prices for cotton and cottonseed. Cottonseed is selling for unheard-of prices, and a bale of cotton with the seed is now worth to the farmer three to four times as much as it was a few years ago.

All things considered, the outlook for next season's cotton crop in Texas is anything but bright. In the drouth-stricken area hundreds of farmers have been compelled, on account of lack of feed and the high prices that they must pay for feedstuff, to dispose of their work stock at sacrifice prices. This leaves them in many cases without the necessary equipment to carry on farming operations, and unless they obtain some relief before the next crop season opens there will be a very large reduction of the cotton acreage due to this distressing condition, it is stated.

The cottonseed-oil mills promise to have a very satisfactory run this season, notwithstanding the shortage of the cotton crop. The lack of sufficient cottonseed to keep them going through the usual period will be made up and probably exceeded by the crushing of peanuts. Many of the cottonseed-oil mills have installed peanut crushers and have contracted for large quantities of the goobers which they will manufacture into oil. It has been found this season that the peanut is a better drouth-resisting plant than cotton, and good crops of them have been raised in localities where the cotton crop is practically a failure. This fact is expected to cause a still greater increase of peanut acreage next year than would have otherwise happened. This year's acreage in Texas devoted to peanuts was approximately 300,000 acres, while conservative estimates at this time place the probable peanut acreage next year at not less than 1,500,000 acres.

Ordnance Proving Ground to Cost \$7,000,000.

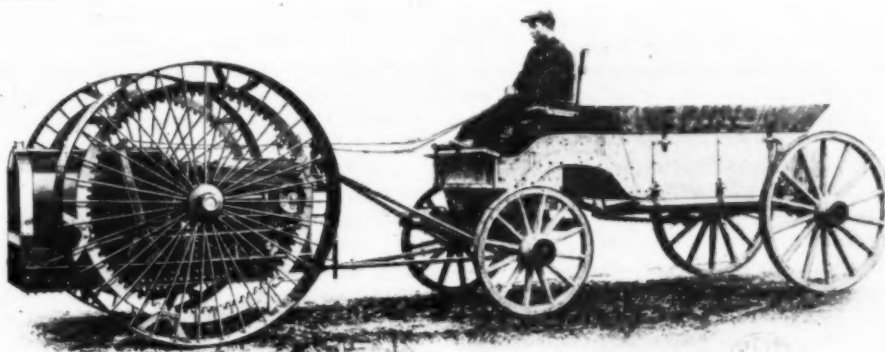
An appropriation of \$7,000,000 is available for expenditure upon the ordnance proving ground which the War Department will establish in Harford county, Maryland, where 25,000 acres of land will be purchased for this addition to the Government's war facilities. The appropriation provides for purchasing and improving the land, the betterments to include constructing the many buildings and the various other utilities necessary for the comfort and health of the officers and employees.

Col. L. H. Ruggles, Chief of the Ordnance Department will be in charge of construction, and the general contract has been awarded to the Maryland Dredging & Contracting Co. of Baltimore. Contract for the sewer system, roads and sidewalks has been awarded to P. Flanagan & Sons, also of Baltimore. Morrow Bros. of Baltimore have received contract to construct many of the buildings. Railway companies will at once build sidings and extensions. The numerous land improvements will include building piers and wharves, dredging waterways, installing sewerage system, constructing water-works, planting huge concrete foundations for high-powered guns, laying streets and roads, building railroads, bridges and conduits; constructing homes, quarters for officers and employees, installing telephones and telegraph, etc.

Impressed by Southern Agriculture.

Governor W. L. Harding of Iowa, Mrs. Harding, Cols. Chas. Wilson and J. C. Lasher of the Governor's Staff, his secretary, C. E. Witt, and Mrs. Witt have just paid a visit to Louisiana. Governor Harding is quoted in the New Orleans Item as saying:

"We thought the vast corn fields of Iowa were wonderful, but we find that the cotton and cane fields of Louisiana are equally as extensive and as wonderful. This is our first trip South, and as the industries and products of this section are so different from Iowa, we are very much interested."



"REIN-DRIVE TRACTOR" PULLING LIGHT WAGON.

Great Ship-Building Activities in Steel and Wood at Brunswick

[Special Correspondence Manufacturers Record.]

Brunswick, Ga., October 19.

Positive assurances were received today by the Brunswick Board of Trade that contract has been closed between the United States Shipping Board Emergency Fleet Corporation and the Daniels Construction Co. of New York City, by which the latter will build 12 all-steel ships of 9500 deadweight capacity tons each in a plant to be erected in Brunswick on a site secured from the Atlanta, Birmingham & Atlantic Railway, comprising a portion of the railroad's terminals not now in use. Announcement was made in the MANUFACTURERS RECORD in August that Oscar Daniels and associates of New York had secured this site and were prepared to begin construction of a plant for building steel steamships that probably will be the largest plant of that kind in the South. The entire time since August has been consumed in arranging details with the Government and obtaining the contract.

The vessels to be built under this contract will conform to plans in possession of the Daniels Construction Co., and are of 2200 tons greater capacity than the largest of the standardized ships for which the Emergency Fleet Corporation has prepared plans. It is understood that the Daniels plans have met with the entire approval of the naval architects of the Shipping Board. The vessels are to be built entirely of steel, even the superstructures and cabins being steel. As no wood will be used anywhere in the building of the ships, they will be fireproof and secure very high insurance ratings.

The Oscar Daniels Company of New York, organizers of the Daniels Construction Co., are well known in both New York City and Chicago, where they have handled many very large contracts for building subways and large buildings. It is understood that a large number of engineers, draughtsmen and other supervisory employees who are a part of the organization of the Oscar Daniels Company have been under orders for a month or more to proceed to Brunswick as quickly as possible after the closing of the contract. It is expected work will begin on the plant within a week, as the organization is already perfected. When the site was selected, officials of the Daniels Company stated that the existing facilities and improvements, such as improved waterfront; warehouses that will be used as shop buildings with little change; service from the complete system of water supply; watermains, sprinkler system, fire pumps, using both fresh and salt water; splendidly-arranged and equipped offices and drafting rooms, with rail connections already in place, will greatly advance the completion of the plant and the beginning of actual construction of ships, and on this account are worth several hundred thousand dollars to the company.

The contract covers 114,000 tons of ships, and will necessitate the bringing to Brunswick of several thousand mechanics. The housing problem will be solved to a large degree through plans of the Daniels Construction Co. to erect a large number of cottages and apartment-houses, and probably a large hotel, for their employees.

This makes the sixth shipbuilding plant established in Brunswick, which easily is maintaining the lead in shipbuilding in the South, obtained by the establishment of the first shipyard in March, 1916. The effect is to make Brunswick a center of the industry, a point to which skilled labor naturally tends to gravitate, constantly making Brunswick a more desirable location for shipbuilding.

The Seaboard Dredging Co. of Jacksonville, Fla., has completed its contract for filling the frontage of the plant of the United States Maritime Corporation, at the same time dredging a creek at the side of the plant into a basin 1500 feet long, 250 feet wide and 24 feet deep at mean low water, or 31 feet deep at high water. The basin will be used for fitting and rigging ships built in the plant and for repairing vessels. The plans of the United States Maritime Corporation call for the building of two drydocks, one of very large capacity

and one for smaller ships, and the smaller dock will be located in the upper end of this basin, and a machine-shop for repairing vessels and machinery will be located on the side of the basin. The Brunswick Dredging Co. has been incorporated in New York by officials of the United States Maritime Corporation, and a large pipeline dredge has been purchased and is now on the way to Brunswick. On its arrival it will be put to work to fill the entire 100-acre shipbuilding site, after which dredging will be handled at Brunswick for others. An area of 15 acres has already been filled under contract by the Seaboard Dredging Co. Two shipways are nearing completion, and four more will be built at once. The work of erecting shop buildings, placing machinery and actual construction of steamers is proceeding rapidly. Part of the machinery for the plant is on the ground, more is arriving daily, and material for the vessels, which are under contract for the United States Shipping Board Emergency Fleet Corporation, has already reached the plant.

The site of 27 acres on which dwellings for employees will be erected by this company has been cleared and laid out in streets, and work will soon commence on the construction of 125 houses, all of which will have sewer connections, electric lights, running water and other modern conveniences, according to Thomas Hampton, vice-president; M. L. Snider, treasurer, and A. G. Lampke, secretary, all of whom spent several days in Brunswick this week inspecting the work and planning for the completion of the plant and industrial village. Close to \$2,000,000 will be invested in this plant—the drydocks, the half mile of site on deep water and the industrial village—when completed, and it will form one of the largest and best equipped permanent plants for building steel ships to be found anywhere in the United States.

Yesterday the Carpenter-Watkins Shipbuilding Co. launched the sixteenth ocean-going barge from their plant here. As fast as completed, these barges have loaded with cross-ties, lumber or other products and sailed for the East. Two additional shipways have been completed at this plant, and it is understood the company will soon begin construction of two wooden steamships. The plant was established only 10 months ago.

The large four-mast schooner, William Taylor, which was built in Brunswick by the Brunswick Marine Construction Corporation, sailed today for a port in the West Indies with a large cargo of railroad cross-ties from a Brunswick exporter. The William Taylor is the third vessel completed by the Brunswick Marine Construction Corporation. All of the vessels built in Brunswick so far have taken their first cargo from this port.

A site on Terry's Creek, a comparatively wide and very deep stream emptying into Back River, on the eastern side of the peninsula on which Brunswick is situated, has been secured from the city by the Brunswick Shipbuilding Co., of which Capt. John H. Leo, builder of the now famous schooner Glynn, is vice-president and general manager, and the location, which is salt marsh, will soon be completely filled in. Work of constructing launchways for a schooner will commence as quickly as approval of the site can be secured from the Government. The site is close to the plant of the Yaryan Rosin & Turpentine Co., and has railroad tracks already in place, and the work of filling the site has been in progress for several months and is nearly completed.

A. R. Sensell, for more than 20 years superintendent of the Parker-Hensell Engineering Co.'s iron works and marine railway, now a part of the plant of the Brunswick Marine Construction Corporation, has resigned his position with that shipbuilding company and is establishing a similar plant for fabricating steel for ships and marine repairs at the foot of Prince street, on the property of the American Shipbuilding Co., for which steel will be fabricated for ships built in their plant. A steam hammer and forge are already in operation, and the remainder of the plant will be rushed to completion as quickly as possible because of the great demand for such work in shipbuilding.

Save Coal Supply by Developing South's Water-Powers.

DAVID R. SHEARER, Johnson City, Tenn.

Now, as never before, is the time to develop the South's latent water-power resources. Coal is becoming more costly and more difficult to secure continually, but our water is running on and on down the mountain slopes to the sea, wasting power amounting to hundreds of thousands horse-power every day, and that at a time when our country is taxed almost to the limits of its resources.

There are hundreds of really fine small powers on the small streams of the South, particularly in the mountain sections. These powers will develop from 2000 horse-power down to 100 horse-power each, and many of them are located on or near railroads, with every facility for speedy and economical development. If manufacturing plants cannot be moved to the powers, let the powers come to the manufacturers. In this day of high voltage transmission of electrical power it is an easy matter to take the power many miles with a very small loss and use it to replace coal.

Those plants now operating with steam can shut down their engines and boilers and hold them in reserve for emergency use by stocking a small amount of that most valuable commodity, coal. Practically everyone realizes the economy of electric drive, and when once this system has been installed within range of developed water-powers, troubles from power costs should cease. The time is at hand when the individual manufacturer can own his water-power plant as he owns his steam plant, but with this difference, the overhead and operating expense of the water-power is usually much less than that of a steam plant.

Automatic features have been developed until it is possible to have these small hydro-electric developments operate practically without attention, and this feature alone makes a large reduction in operating costs.

A lumber company in North Carolina recently found it advisable to construct a small hydro-electric plant and transmit the power to a band-saw mill in order to release a part of the wood waste for sale and use other than burning under the boilers.

Patriotism and common sense demand that every effort possible be made toward conserving the resources of our great country which up to this time has set an extremely bad example of wanton wastefulness. France has learned the lessons of efficiency, of almost penurious economy, by being forced to it. Why cannot we as patriotic Americans see the straws in the wind and begin to practice conservation and economy while there is time?

True conservation would demand that, wherever a water-power can be developed to replace coal in manufacturing, and this development be made economically, it be done.

The United States is now passing through a state of readjustment which to some extent hampers the development of new projects, but even so, the producers and manufacturers have not yet fully wakened to the opportunities of the present and to the inevitable demands of the future.

Suggestion to Interstate Commerce Commission.

CHAS. W. HOWARD, Chattanooga Industrial Board, Chattanooga, Tenn.

Referring to your article appearing on page 50, October 11 issue, "The Railroads of the Country Are Submerged to Death." Shortage of cars is no less responsible for the shortage of coal than labor. If the car shortage is overcome much of the labor trouble would disappear.

It is a common practice for railroads to carry a considerable stock of coal on cars. This is no more patriotic than it would be for a manufacturer to unnecessarily hold railroad equipment for his convenience. Why can't the Interstate Commerce Commission call on the railroads of the country for a statement as to the number of coal cars they are holding on their line for storage purposes, just as the comptroller now calls on the national banks for statements? The result of these unheralded calls would doubtless be somewhat of a surprise to all of us.

MISSISSIPPI'S BROAD CONSTRUCTIVE WORK.

Rapidly Coming to Front as State of Achievement—Vardamanism Repudiated.

Jackson, Miss., October 18—[Special.]—The special "war session" of the Mississippi Legislature, recently adjourned here, adopted many measures calculated to help the United States in its war against Germany, and others looking to the development of the State.

A measure was passed giving the State Council of Defense legal status and appropriating \$1000 for clerical work. A small reactionary group in the House, composed of followers of James K. Vardaman and Tom Watson, fought this measure for days, but they were beaten.

All shipyards in the State were exempted from taxation for a period of five years. This measure was urged by Governor Bilbo as being necessary to the full development of an industry that is already giving the coast section of the State unparalleled prosperity.

All hotels of more than 50 rooms, built between the present time and January, 1920, were exempted from taxes. This is part of a plan to develop the coast section, and to have tourist hotels erected there large enough to accommodate the crowds expected at the Centennial Exposition at Gulfport, which will be held as soon as possible after the European war is over. Definite promise of the erection of one hotel to cost \$250,000 is in the hands of the Governor as a result of the exemption.

Hinds county, in which Jackson is located, was granted the right to issue bonds to the amount of \$250,000 to assist in locating a packing plant in Jackson. Negotiations are practically complete for a million-dollar plant, which will take care of the tremendous production of livestock in Mississippi, the greater part of which is finding its way to St. Louis. The long trip there causes serious shrinkage in weight, and location of a plant at Jackson, in the center of the State, will obviate this, in addition to keeping millions of dollars at home.

Measures were passed to allow Mississippi fighting men to vote in all elections, no matter where they may be, registered mail being used for the purpose, and also for relief of soldiers from payment of debts until the end of the war. This soldiers' moratorium carried with it protection from civil suits for the war period.

A home guard, to be composed of men below or above the military draft age, was authorized, to take the place of the National Guard, now in Federal service.

Oakley prison farm will be made into a stock farm, and \$15,000 was appropriated for the purchase of grade heifers for Oakley, where magnificent mules and hogs are already being raised. Oakley will be the first State prison farm to be given over to stock-raising, the others being cotton plantations, although all produced heavy food crops this year.

The spirit of the Legislature was one of loyalty to the Government and willingness to help in every way possible. A small group in the House made itself heard by sheer vociferousness and followed the policies of Gore, La Follette and Vardaman, but this did not prevent the passage of a resolution pledging full loyalty to President Wilson.

It took a hard fight to get an invitation through to ask Senator Vardaman to speak, and it was specified that he should not touch upon politics, while United States Senator John Sharp Williams was invited to speak without a dissenting vote, and not a word was said about his subject. He spoke on the war as it affects the United States, and was applauded vigorously.

The session was almost unmarred by petty politics, and set a record for constructive work for such a short period, as it lasted only three weeks.

South Mississippi, with its thousands of acres of cut-over pine lands, has offered a problem in development, and it is only in recent months that the work of the patient and painstaking Federal farm agents and progressive business men has begun to show results.

J. Ed. Ruff, district agricultural agent for that section, estimates that \$5,000,000 worth of truck has been shipped from South Mississippi this fall, the co-operative shipments of hogs and cattle will probably run as high as that, and several large dairies, established during the past year, are in successful operation.

Stock farms on a scale commensurate with the im-

mense tracts of grazing lands and the cheapness of farm lands are being established. One stockman near Natchez, in Adams county, has 4000 Herefords on his place, and a number of good herds have been started this fall, with grade and pure-bred stock from Texas drouth districts as the foundation.

It is pre-eminently the land of the truck farmer, the dairyman and the stock farmer. Land is dirt cheap, water pure and abundant, grazing good, climate mild, and growing seasons 12 months long. Large lumber companies nearly all have experimental farms, and are doing all they can to encourage farming. The Enochs herd of Herefords at Fernwood, where the Enochs have extensive sawmill interests, is one of the best Hereford herds in the United States.

To offset the loss of labor from Mississippi farms, which is being keenly felt since the draft took hundreds of negroes to cantonments, a farm machinery exhibit is being taken all over the State, and every form of modern labor-saving machinery demonstrated to the farmers.

The exhibit is in charge of F. R. Jones, State farm machinery specialist. It is made up of a full carload of improved farm machinery, and Mr. Jones gives a practical demonstration, plowing, harrowing, seeding, disking and completely working a tract of ground while the farmers look on.

Much machinery has been sold, especially during the past few weeks, when fall plowing was under way, and there were few men to look after it. The demonstrations are made gala days, and helpful lectures are given the farmers by county farm agents and successful farmers.

Progress in co-operative farm work, especially the marketing of all varieties of products from sorghum to wool, has been so rapid this year that already counties are planning to hire two agents. Attalla and Leake have arranged for a third agent between the two, and there are only about 10 counties in the entire State without demonstration agents.

Co-operative shipments will run well into the millions this fall. The sorghum crop has yielded hundreds of thousands of dollars this fall, where it formerly brought in tens. Hog and cattle movement to the big markets is in full progress, and, together with the unprecedented prices received for cotton and cottonseed, is bringing in more money than Mississippi farmers ever imagined.

Seed broke all records during the past week, when the State Board of Prison Trustees sold 400 tons at \$80 a ton. Until a decade ago almost a waste product, seed and seed products form almost as valuable a part of the cotton crop as the lint itself.

President W. H. Smith of the Mississippi A. and M. College, said of the present year's farming operations in the State: "We combined patriotism and good sense, and the consequence is we have not only done our bit for the country, but we have greater and more widespread prosperity than was ever known before in the history of the State."

Important Oil Developments Under Way in Texas.

Houston, Tex., October 19—[Special.]—What promises to become a large oil-producing field of the gusher type of wells was recently opened near Cuevitas, in the Rio Grande border region of Texas. The discovery well was bored by the Rio Grande Oil & Gas Co. At a depth of 810 feet there was a gas flow, and as the company did not have on hand the necessary casing for the well, the hole was not cleared and the work of drilling was ceased until casing could be obtained. During the period that the well was free it flowed a high grade of oil at the rate of more than 500 barrels a day.

This new oil strike has attracted wide attention in oil circles, and preparations are already being made for installing a number of additional drilling outfits. The locality of this well is about 20 miles north of Roma on the Rio Grande. Near the producing well are two ranch wells that have been partly filled with crude petroleum for more than 20 years and have long afforded a supply for dipping cattle on the ranches of that section.

Several large leases of land have already been obtained by oil companies that propose to bore wells near Cuevitas, one of these embracing that of the ranch of W. H. Jennings, which has an area of 200,000 acres. The Baker Oil Co. and the Empire Gas & Fuel Co. are already drilling wells near the one which the Rio Grande

Oil & Gas Co. put down. It is the opinion of oil experts that by deeper drilling an enormous flow of oil will probably be obtained.

The prospective new field is about 100 miles east of the Gulf of Mexico and about 350 miles north of the Tampico oil fields.

There is much activity in refinery construction and enlargements of existing plants in Texas at this time. One of the recent transactions was the purchase by the Humble Oil Co. of Houston of the refinery of the Dixie Oil Co. at San Antonio for a consideration of \$550,000. The present capacity of the acquired plant is 1800 barrels daily. It is stated that this capacity will be greatly enlarged and probably more than doubled by the building of additional stills and installation of necessary equipment.

The Producers' Oil Co. is making preparations for the enlargement of its refinery at Gainesville. It has taken an option on 800 acres of land situated adjacent to its present plant there, and will soon begin the building of additions.

The Petroleum Refining Co., which is building a new refinery on the ship channel near Houston at a cost of about \$20,000,000, expects to have the plant finished and ready for operation about December 1. J. S. Cullinan, former president of the Texas Company, is at the head of the Petroleum Refining Co. The company owns large producing interests in the Humble, Goose Creek and Damon Mound fields.

Unsolved Problems in Iron and Coke.

THE MATTHEW ADDY COMPANY, Cincinnati, Ohio.

The Government price on pig-iron is the ruling quotation. Such small retail lots of iron as are being sold are going at the agreed prices. Producers have accepted the situation without a murmur. And the iron men have so far made the greatest sacrifice that any set of business men so far have made. Every ton of the \$33 base iron could have been sold at \$50 or higher. With a justifiable feeling of self-righteousness, we are wondering whether the example set by iron will be followed by others. How long are we to be asked to pay \$12 for shoes that used to be sold at \$4? How long are we to pay the altitudinous prices on the bills of fare of the good hotels—60 cents for a portion of spinach, for example? We have gracefully accepted the situation, even though it meant heavy losses, and we now patiently wait, expecting to see what we have done put in practice by others.

We begin to feel that there must be a lot of Germans in disguise in the ranks of the makers of coke. In the coke fields there have been for more than a month a series of "accidents." These accidents strongly remind us of the accidental fires caused for the past two years by concealed bombs on Atlantic ships, or of the unbroken series of explosions in munition plants and fires in stockyards and grain elevators. The way in which the coke trade is hampered is suggestive of Bernstorff deviltry. We ourselves are strongly of the opinion that all the enemies we have to fight are not bearing arms on the battle fronts. The coke men are not accepting new orders; in fact, most of them are more behind contract time in filling old orders, and the whole trade is suffering because of a shortage of coke. There is not enough for the crying needs of the furnaces, and this week many of them have been obliged to bank because they could not get enough coke to keep running.

The volume of new iron sales is comparatively small. The mere fact of regulated prices has not in any way changed the gravity of the situation. That is, Government prices have not resulted in a larger output of iron. The furnaces everywhere are doing their best, but because of the coke shortage production of iron continues to decline, and it is the literal truth to say that there are five customers clamoring for every car of iron produced. There is not enough iron to go around, and foundries are shut down all over the country because they cannot get iron. With the country at war and needing every possible ton of iron, the seriousness of the case can not be exaggerated. And the weak spot is coke. When you cannot get coke, you cannot make iron—that is the story in a nutshell.

As can be seen, the iron trade is still very far from the solution of the tremendous problems that confront it.

GREAT INDUSTRIAL ACTIVITY REPORTED FROM NEW ORLEANS.

Group of Twenty-five Industries in Jefferson Parish all Planning Enlargements and Improvements—Some Novel Processes in Use.

New Orleans, La., October 20.—[Special.]—Extensive additions and new projects to cost in the neighborhood of \$3,000,000 are under consideration and in some cases under construction in the big \$20,000,000 Gretna-Harvey, Marrero, Westwego, Jefferson parish industrial district opposite this city. And besides these improvements, some rather novel processes for the utilization of coal substitutes, involving in one instance the producing of a fuel gas from sawmill hogwood or waste are being successfully carried on.

This industrial district is one of the most thickly concentrated factory sections in the South, and all of the 25 plants here report plans for improvements and enlargements, while new plants are coming into the parish, attracted by the excellent manufacturing and shipping and importing conditions obtaining in this part of the State.

Swift & Co., who already have very large manufacturing interests at Harvey, are seriously planning for the erection of a mammoth slaughter-house and packing plant as an addition to their large lard compound, fertilizer and other manufacturing operations now located there. This packing plant is to handle Central American cattle almost exclusively, and Mr. Louis Swift of Swift & Co. was looking over the ground for the plant for several days recently. They are also being compelled by the great increase in the demand for their Harvey fertilizers to consider early large additions to this phase of their Jefferson manufacturing interests too. And they have just begun the erection of a sulphuric-acid plant at Harvey, to cost approximately \$250,000, which will have a daily capacity of 60 tons and an annual production of about 21,900 tons of 50-degree Beaume sulphuric acid. This acid will be used entirely by them in the manufacture of their acid phosphate commercial fertilizers, and will be produced from Louisiana sulphur instead of from Spanish pyrites ore, as all of the sulphuric acid used in such fertilizers manufactured in this section heretofore was produced. This is a more expensive process than the old one, because of the very much higher cost of pure sulphur, but it is made necessary by the impossibility of getting the cheaper pyrites ore from Spain at this time, owing to war-demoralized shipping conditions.

The Union Seed & Fertilizer Co., which is an older Jefferson parish industrial institution than Swift's, is spending about half of what Swift & Co. are spending on additions to its present sulphuric-acid plant, which was already equipped to produce sulphuric acid from Spanish pyrites ore and which is being considerably enlarged and equipped now to use Louisiana sulphur. Their daily capacity will be about 40 tons, running every day of the year.

Penick & Ford, Ltd., large distributors of cane-sugar syrups and table molasses, are just completing a \$125,000 molasses cold-storage plant as an adjunct of their other big operations at Harvey, which altogether represent an investment of something like \$1,500,000. Besides this, they are starting the construction of a plant to manufacture producer gas from coal to be used as a coal substitute in their power plant. It will, according to their statements, mean an immense saving in their annual fuel bill while they are waiting for the introduction of the Terrebonne natural gas into that district, which when the necessary piping is secured will be the first section to get the Houma gas in large quantities.

If there were more contiguous sawmills this entire section would forget all about coal and do like the Southern Cotton Oil Co. is doing, which is to produce fuel gas from hogwood, the sawmill waste that once was thrown into the trash burners, which have been considered an essential feature of every Southern sawmill. The Southern Cotton Oil Co. has been experimenting with this hogwood for several months, and by means of a secret process has obtained from it a fuel gas which has been the source of a very considerable saving in their coal consumption bill.

The American Cotton Oil Co. at Gretna will soon start construction work on a new glycerine plant for the extraction of glycerine from cottonseed oil and also on a plant for the manufacture of other vegetable oils, such as soy bean, peanut, etc. They will be equipped to

crush imported oil-bearing nuts also. They have focused all of their development plans now on the by-products end of their business.

The Union Petroleum Co. at Westwego is also doing extensive development planning.

\$500,000 MACHINE PLANT COMPLETED.

Atlanta Corporation Secures \$3,000,000 to \$6,000,000 Government Contract for Shells.

A Government contract which will total from \$3,000,000 to \$6,000,000, dependent upon whether the contractor or the Government furnishes the materials, has been received by the American Machine & Manufacturing Co. of Atlanta, Ga. This contract is for the manufacture of shells for the artillery of the American expeditionary forces, and, in order to equip its plant promptly, the company has purchased two large machine plants at Baltimore and Richmond. This new plant at Atlanta has been under construction for several months, in accordance with details heretofore announced, and its installation of machinery will enable it to produce six-inch shells, steel castings for gun mounts, engine frames and other similar mechanical equipment. The company is already supplying the Baldwin Locomotive Works of Philadelphia with steel castings required in connection with the Baldwin corporation's Government orders to construct locomotives for service in France.

About \$500,000 has been invested by the American Machine & Manufacturing Co. for its site, buildings and machinery. Several thousand men will be employed by the plant, and it is expected that the payroll will soon approximate \$50,000 each week.

Activity in Kentucky Oil Fields.

Lexington, Ky., October 19.—[Special.]—For months big oil operators of West Virginia, Oklahoma and the West have been flocking into this section, now one of the leading oil-producing districts in the country. A number of new corporations have been organized in the Eastern Kentucky field within the past few days, and leases made on extensive properties soon to be developed.

Among the latest to be organized is the Mayo Oil Co., with a capital of \$100,000, incorporated under the laws of Maryland. W. S. Dudley, Carlisle, Ky., who succeeded the late multi-millionaire, John C. C. Mayo as president of the Mayo interests, was elected president of the new company; Dr. J. F. Pennington, Ford, Ky., vice-president, and Younger Alexander, Lexington, secretary and treasurer. The local offices of the company will be in this city, although a branch will be maintained in Winchester. They have an extensive area of oil lands leased in Estill, Powell, Madison, Lee, Rockcastle, Casey, Pulaski and Lincoln counties, and drilling is billed to be started as soon as the machinery can be delivered.

The Wood Oil Co., the oldest operating company in the State, who recently showed some good paying wells in Wayne and Wolfe counties, are making extensions into the Irvine field around Irvine, and will bore a number of wells within the next fortnight.

The Security Producing & Refining Co., another of the older companies, are securing a foothold in the Irvine field and are already doing a large amount of developing. Two or three good paying wells have already been struck by this company.

The Atlantic Refining Co., with offices in Philadelphia, have representatives in the Powell and Wayne fields of this State making leases and will soon install machinery and begin driving test wells on a large scale.

The Mountain Oil Co., the Ohio Oil & Fuel Co. and the Leonard Petroleum Co. are all new companies entering the Kentucky field. The latter company will drill several test wells in Lee, Morgan and Wolfe counties.

The Phoenix Oil Production Co., organized in this city several days ago by W. P. Richardson, L. L. Roberts and others with a capital of \$50,000, plans some new test wells in the Irvine field.

At least a dozen new good producing wells have been struck in Powell county near Stanton within the past 10 days, some of them excellent producers. The Cherokee Oil Co. and Foreman & Hokstetter have each made some good producers, and are still extending operations upon new leases. Pat J. White and Carl Dresser of

the Petroleum Exploration Co., with offices in Chicago, have some good producing wells in the Pilot-Ashley fields of that county. New strikes are being reported almost every day, and Powell will prove a close second to the Estill field.

Between October 1 and October 15 there were over 100 producing wells brought in in the Kentucky field, a large increase over the first half of September. Out of 120 counties in the State, 46 have shown to contain oil, good producing wells having been brought in. In at least 20 other counties drilling is to be started within the next few days. Leases are already being extended into these counties. Oil people believe also that even new and richer fields will be developed in the State.

The Cumberland Pipe Line Co. has men at work extending its lines into Powell and other counties adjacent, where some good strikes have been made within the past few days.

Shipbuilding News of the Week.

Contract for constructing a \$10,000 building for the American Shipbuilding Co.'s plant at Brunswick, Ga., executive offices at New York, has been awarded to Lang & Orr of Brunswick. This is in addition to the two-story 150x60-foot mill-construction shop building and other additions for which contract was recently noted awarded to J. G. Conzelman of Brunswick, in connection with the American management's plan for additional facilities in conjunction with its increase of capital from \$50,000 to \$500,000.

Details are now being determined by the Brunswick Marine Construction Co. of Brunswick, Ga., Wm. U. Taylor of New York, president, for providing a machine-tool plant, smelting equipment, giant riveters, etc., for the construction of steel vessels. Heretofore this company has built wooden ships.

W. W. Dwyer of New York and associates have organized the Mississippi Shipbuilding Corporation of Biloxi, Miss., to establish the shipyards recently mentioned in connection with his name. A waterfront site has been leased, and facilities are being provided for the construction of 2,000-ton schooners as the initial production. Plant machinery costing \$10,000 is being installed, and buildings of ordinary construction are being erected, C. H. Daughdrill of Biloxi being the architect-engineer in charge. W. W. Dwyer & Co. of New York are the new company's general agents, and the officers are W. W. Dwyer, president; J. W. Dwyer, secretary; James Colletti, manager.

Dispatches from New Orleans, La., state that through the co-operation of the lumber industry, the Emergency Fleet Corporation's whole program is being speeded up. Within a short time, it is said, a ship a day will be put in the water for Uncle Sam at yards along the Atlantic and Gulf, in addition to almost as many wooden vessels being built for private interests. The Pacific Coast will also contribute about 200 standard-type wooden steamers.

Reports received at the offices of W. J. Haynen, assistant purchasing agent of the Emergency Fleet Corporation, indicate a considerable increase during the past few days in the number of Southern pine mills cutting ship timbers.

Last week's output is thought to have been over 3,000,000 feet, on the face of incomplete reports so far received, and this week will probably go above that.

"We are not yet getting enough timber," says Mr. Haynen, only 60 to 70 per cent. of our requirements right now."

Mr. Haynen states that 158 mills are now cutting on 196 ship schedules. About 30 schedules have been completed to date. Thirty-nine schedules have not yet been placed.

The Cotton Movement.

In his report of October 19, Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, states that the amount of cotton brought into sight during 80 days of the season was 2,639,765 bales, a decrease under the same period last year of 1,101,331 bales. The exports were 1,199,240 bales, a decrease of 149,756 bales. The takings were, by Northern spinners, 350,070 bales, a decrease of 148,399 bales; by Southern spinners, 759,240 bales, an increase of 36,962 bales.

RAILROADS APPEAL FOR RELIEF.

Preliminary Presentation of Their Request for a 15 Per Cent. Rate Increase.

Washington, D. C., October 23—[Special.]—On Wednesday last, in accordance with arrangements previously made, the railroads informally laid their plea for financial relief before the Interstate Commerce Commission, with a request for a horizontal increase of 15 per cent. in freight rates.

Even with the granting of this request, it was intimated by the spokesmen for the railroads that the relief would be only temporary in respect to the chief commodities mentioned, and that a more specific presentation of the case of the railroads would be given later.

The chief argument for the railroads was made by George S. Patterson of the Pennsylvania system. Of the shipping interests heard in the discussion that followed, only the cattle and packing interests were represented. Judge Cowen of Fort Worth, Tex., spoke for the livestock industry, while the packing interests were represented by officials of the leading Chicago packing-houses.

In presenting the railroads' side of the situation, Mr. Patterson said:

"We come with two specific suggestions. The first is whether it is not practicable and whether a blanket application should not be filed by the carriers asking for permission to file tariffs covering all those commodities, such as brick, copper, stone, sand and many other commodities. Cannot a blanket application be filed so as to obviate the necessity of filing separate applications for increased rates with respect to each one of these commodities?"

"The second suggestion is this: Would it not be desirable and in accord with the public interest to postpone the hearings which have now been set with respect to the tariffs under suspension covering increased rates on grain, grain products, livestock, dressed meats and certain other miscellaneous commodities?"

"It is the opinion of the gentlemen whom I represent that any relief which will be secured from permitting these increased rates in respect to these commodities will be only a temporary relief, and that it is only a question of a short time when the needs of the Eastern carriers will be brought to the attention of this commission in a much more general and more specific way than is contemplated in these particular tariffs."

The question of postponing the hearings on tariffs that had been suspended called forth several inquiries from the shipping interests represented. They gave indication that time should be given them to look into the nature of the arguments that would be made by the railroads in support of their request for the higher rates.

It was further pointed out that in a number of instances the period of time for which the commission was authorized to suspend the tariffs imposed by the railroads was limited, and that in several cases the limitation would shortly expire. As an instance, it was cited that the petroleum rates had been set for a formal hearing on November 24. As a result of this issue being raised, Mr. Patterson expressed the willingness of the railroads to enter into a voluntary agreement not to advance rates for 60 days after the expiration of the suspension periods, in order that both sides to the controversy might have opportunity to present their claims.

Speaking for the livestock interests, Judge Cowen asked whether, in making their requests for freight-rate advancements, the railroads would be guided solely by the financial situation, or whether their figures would be based on the reasonableness of the rates in regard to specific commodities. To this query Mr. Patterson stated that both factors would be had in mind by the railroads.

The hearings terminated with the understanding that the railroads would present their requests formally in writing, following the receipt of which the commission would take the matter under advisement.

As the meeting was merely for the purpose of introducing a request for permission to file an appeal for advanced rates, no extended arguments either for or against the justice of higher rates were made.

Coincident to the appeal of the railroads, the National Association of State Railroad Commissioners held its annual meeting here. As in the past, its members stressed the importance of not permitting the "twilight

zone" between Federal and State regulation to be thrown into impenetrable darkness by the former.

The members pledged their aid to the Government in war matters, with special reference to co-operating with Congressional committees in their efforts to adjust railroad problems satisfactorily. A new special war committee was appointed at the meeting, with one representative to be continually in Washington to obtain information and give advice to the State commissions calculated to guide them in helping to win the war. The next annual convention of the association was set for Washington on November 12, 1918.

Expert opinion as to the outcome of the railroads' request is frankly non-committal. On general grounds their arguments are considered sound. The attitude of every member of the Interstate Commerce Commission at the informal hearings was impassive, and their occasional inquiries uttered in a dispassionate tone. The three new members—Anderson, Aitchison and Wooley—are unknown quantities in so far as their leanings are concerned. Two of them were brought over from State commissions, which fact is not strongly in favor of the railroads, as the State commissions have not been over-enthusiastic as a rule toward the carriers. Considerable optimism is felt, nevertheless, by those who believe the railroads should be afforded relief. They point to evidences of a change of heart in other official quarters, and are inclined to the view that the members of the Interstate Commerce Commission will undergo a corresponding reaction.

WATERWAYS AS AID TO WINNING WAR.

Greatest Possible Utilization of Nation's Watercourses Needed to Supplement Overworked Railroads.

The Fourteenth Annual Convention of the National Rivers and Harbors Congress is to be held in the Auditorium of the New National Museum, Washington, D. C., on Wednesday, Thursday and Friday, the 5th, 6th and 7th of December.

It is stated in the official call that the fundamental purpose of this convention will not be to urge appropriations for new projects, but to plan how the Government, the cities and the people of the United States may most effectively co-operate to "use the waterways and win the war."

It is significant of the attitude of the national administration that the Secretary of War, the Secretary of the Navy, the Secretary of Commerce, the Chief of Engineers and Walter Parker of New Orleans, assistant to the Secretary of Commerce on Inland Water Transportation, are among the speakers on the program. Other speakers who have already accepted are Senator Hiram W. Johnson of California, Senator Duncan U. Fletcher of Florida, chairman of the Commerce Committee; Representative John H. Small of North Carolina, chairman of the Rivers and Harbors Committee, and Samuel W. Gompers, president of the American Federation of Labor. Edward F. Goltra, president of the Mississippi Valley Iron Co., who recently brought 3000 tons of iron ore from St. Paul to St. Louis, and a representative of the Keystone Steel & Wire Co., which has shipped two lots of 1200 tons of iron ore from Sheffield, Ala., to Peoria, Ill., will tell of the difficulties encountered and the results achieved. Full announcement of the program will be made later.

A statement published in connection with the call for the convention recites some of the things the nation must do to win the war, and as to inland transportation points out that during the whole of the past year the supply of freight cars has been less than the demand, the shortage reaching on May 1 the record-breaking figure of 148,000 cars. Today, by the voluntary action of those in control thereof, the entire railway mileage of the country is operated as if it were a single system, and with an extraordinary increase in efficiency. But those who are best able to judge have no illusions as to the ability of the railroads alone to meet the transportation needs of the country in time of war. Mr. Daniel Willard, president of the Baltimore & Ohio Railroad, and chairman of the Advisory Commission to the Council of National Defense, said some time ago:

"The railroads of the United States, operated as one system, are carrying more freight than ever before in the history of the country, but when they have carried traffic up to 100 per cent. of their capacity there still

remains 15, 25, perhaps 30, per cent. of traffic which it is impossible for them to carry at all."

"A press dispatch sent out from Washington on September 14 stated:

"The spectre of coal riots and confiscation of passing coal shipments by local authorities was presented to Fuel Administrator Garfield today. * * * Railroad experts, admitting car shortage and the gravest traffic congestion in the country's history, said there is now no hope of filling all domestic and industrial coal demands in the scant 80 days remaining before winter ties up the rails and lake boats."

"The folly of depending entirely on one method of transportation, even in time of peace, was shown in 1907. But look ahead to the time when there will be 1,000,000, perhaps 2,000,000, of our sons and brothers on the battlefields of France. Suppose our transportation system breaks down then!"

"Through failure of supplies and munitions to reach our army at a critical time we might lose not only a battle, but the war. And then, with the flower of our young manhood already killed or captured and Germany in control of the resources of the whole of Europe, the day would surely come when the United States would have to fight for existence, single-handed and alone."

"The railways of the country are efficient, but they are not sufficient. The Government, the cities and the shippers of the United States must co-operate to supplement the work of our railroads by using our waterways to the limit of their capacity. For in this, the supreme crisis of history, to risk the safety of our country, the fate of civilization and the future of humanity to a single method of transportation would be worse than folly; it would be a crime."

Attention is called to the fact that the war has called many people to Washington and the hotels are continually crowded, so that it is advisable for those who mean to attend the convention to reserve hotel accommodations at the earliest possible moment.

It is also pointed out that because of the decrease in passenger train service it is well to make early reservation of Pullman accommodations, not only for the trip to Washington, but for the return.

Plantation Negroes in Louisiana Buying Less Foodstuffs.

New Orleans, La., October 18—[Special.]—The sugar planters of Louisiana whose plantations run along the Gulf coast have organized fishing clubs among their laborers as a solution for the high cost of living problem, and all of them are working up every vacant spot in the sugar belt and raising vegetables for the use of their hands and the surrounding communities. A trip through the negro living quarters on any sugar plantation in Louisiana today would disclose to the visitor some very striking instances of intensive cultivation. It has always been the custom of the plantation owners to give every plantation hand a small piece of ground upon which to produce some of his foodstuffs. Always also the negroes have cultivated these plots, but not so assiduously as they are now cultivating them, when they can no longer find cheap food at the plantation or town stores.

New Publications of West Virginia Geological Survey.

The West Virginia Geological Survey, Morgantown, W. Va., will issue during the month of October, 1917, three important publications—a "New Edition of Coal, Oil, Gas, Limestone and Iron Ore Map," "New Railroad Map of West Virginia," scale of eight miles to the inch, and "Detailed Report on Clay and Braxton Counties," by Rev. Ray V. Hennen, with notes on Cenozoic fossils by Dr. Wm. Armstrong Price and Prof. E. C. Case of Michigan University. The geologic map has already been issued, and the Railroad Map and Report and Maps of Clay and Braxton Counties will make their appearance near the close of the month.

Housing Committee of Council of National Defense is reported as favoring the early construction of workmen's homes in Akron, Bridgeport, Newport News, Norfolk and other crowded industrial cities, to permit expansion of war industries.

MISSISSIPPI AS A GREAT CATTLE STATE.

Revolutionizing Results from Vigorous Steps to Eradicate Tick Fever Point Way to Whole South.

Jackson, Miss., October 20—[Special.]—Mississippi will celebrate a new Independence Day December 1, when the entire State will join in commemorating its freedom from the cattle tick. It will be the first tick-infested State to be entirely rid of the pest, which has cost cattle growers millions of dollars, and which for many years kept this territory from its rightful place among the stock-growing Commonwealths.

Ridding the State of the pest was accomplished by co-operation of the State department of agriculture and the Federal Bureau of Animal Industry. The Mississippi Legislature at its 1916 regular session passed a law making dipping of cattle compulsory and providing for the employment of county inspectors to direct the work and to see that it was enforced.

Dr. J. A. Barger of the Federal bureau was sent to Mississippi to take charge of the work, and dipping began, with vats constructed in every county. Some opposition was encountered, and in a few cases vats were blown up. Prompt punishment of offenders and a tremendous force of public opinion against such practices soon ended this, and at present opponents to dipping are almost unknown.

Thus far 178,330 herds have been dipped, and a total of 1,373,952 cattle have gone through the vats, of which 6853 have been in operation. The dipping season is about at end, and these totals will stand. They represent the work necessary to clear 45,176 square miles of the greatest enemy to cattle raising.

Official declaration that Mississippi is free of the tick means that cattle from every county of the State may be shipped to the larger markets free of all quarantine restrictions. It means that pure-bred stock may be imported from any State without any fear of the once-dreaded tick fever, which killed the greater part of the imported stock a decade ago, when a few pioneer livestock men were trying to get into the business. Many of these gave up when valuable animals died a few days after arriving in the State. It was not an uncommon thing for an entire herd to be wiped out in a week.

By far the greater part of the State is already tick-free, and in the first counties to be rid of the pest livestock farming has already become an industry almost equalling the growing of cotton, and in some counties surpassing it.

Mississippi-bred cattle have already won blue ribbons in competition with the best of the country, and now the State is in position to outstrip the Middle Western country, where long winters and short growing seasons handicap the production of beef except at a high price.

Work is under way in every other State to eradicate the tick, and with the completion of the effort here it is expected that the forces of the Federal bureau, numbering at times scores of inspectors and animal husbandry experts, will be transferred to some other State.

Mississippi is the entering wedge driven into the tick-infested area. The whole South ought to be free of the pest in another decade, and can be with the same amount of determination and energy that was applied to the problem in this State.

Yazoo county, pioneer in co-operative shipments of livestock, will ship before January 1, \$100,000 worth of hogs. The \$53,000 mark has already been passed, and fall shipments are only beginning. Five years ago the county's receipts from hog shipments were so near nothing as to be negligible, while now the shipments are one of its chief industries.

The first co-operative car of turkeys will move to market before Thanksgiving, sorghum sales will run into hundreds of thousands of dollars, the sorghum being shipped in car lots under the co-operative plan, chickens and eggs are bringing top prices, and these, with the "war" prices being paid for cotton, corn, velvet and soy beans and peas, are pouring a flood of money into the farmers' strong boxes.

Mississippi set out to feed itself this year, a new task for the State. This it has done in one year, and in addition to accomplishing the feat, sufficient food-stuffs have been shipped out to take care of at least a population equal to that of the State. There are now 140,000 cans of tomatoes and beans alone for sale, and pantries were never so crammed with canned, preserved and dried foods in history.

The largest exhibit of the work of boys' clubs ever

made is on display this week at the Mississippi State Fair. Twelve thousand boys, members of corn, pig and baby beef clubs, sent their choicest products to the annual exhibition of the State's products.

There are 1200 distinct exhibits of corn, 150 exhibits of prize pigs, already decorated with blue ribbons by community and county fairs, and 40 calves, entered by the baby beef clubs. In many instances the exhibit was the direct cause of the presence of its owners, as many communities give the prize-winning boys a trip to the fair.

In addition to the great display of corn, 2000 ears selected from the 100,000,000-bushel crop of the present season are on display. They are shown by the Mississippi Corn Improvement Association, with the idea of teaching farmers seed-corn selection.

Girls' canning and chicken clubs also have larger exhibits than have every been shown here. The boys' juvenile work began in Mississippi, and while it has spread now to every other Southern State, its home Commonwealth has never lost its place in the forefront of States that believe in starting with the youngsters in teaching new methods of farming.

"It means millions to Mississippi" is the way leading stock-raisers have summed up the successful conclusion of the fight.

TO GENERATE 10,000 ELECTRICAL HORSE-POWER.

Contracts Awarded for Second Yadkin Development of Aluminum Company of America.

Further details have been obtained regarding the second Yadkin River development (recently mentioned by the MANUFACTURERS RECORD) of the Aluminum Company of America. This development is being undertaken through the Tallahassee Power Co., a subsidiary of the Aluminum corporation, all contracts for construction and equipment of machinery having been awarded. There will be 30,000 horse-power developed when the dam and power-house have been completed.

James W. Rickey, chief hydraulic engineer of the Aluminum Company of America, offices at Pittsburgh, advises the MANUFACTURERS RECORD:

"Several months ago we awarded contract to the Hardaway Contracting Co. of Columbus, Ga., for building the dam and power-house at the Yadkin Falls dam site on the Yadkin River near Badin, N. C. The spillway portion of the dam will be 465 feet long, comprising a trash gate and 10 sluice gates, each 33 feet wide and 30 feet high, also two small tainter gates, each 25 feet wide, and, respectively, 15 feet and 10 feet high. The power-house will contain three vertical turbines mounted in concrete scroll cases. Each turbine will develop 10,000 horse-power when operating under 50-foot head. The turbine contract has been let to the S. Morgan Smith Company, York, Pa.; the governor contract to the Allis-Chalmers Manufacturing Co., Milwaukee, and the generator contract to the General Electric Co., Schenectady, N. Y. The structural steel in the floodgates and the power-house will be furnished by the McClintic-Marshall Construction Co. of Pittsburgh. All other contracts have also been let, covering miscellaneous equipment.

"This development is designed to maintain the pond above the dam at constant elevation, and when flood in the river occurs the floodgates will be opened so as to maintain the pond at the normal level. The combined discharge of all of the floodgates allowing the pond level to rise four feet above normal is 250,000 second feet. The plans have been prepared by the company's chief hydraulic engineer, James W. Rickey of Pittsburgh. The plant is scheduled for completion May 1, 1918."

More Power Laundries Suggested for South.

In making the suggestion that the South offers a good field for power laundries, a correspondent of the MANUFACTURERS RECORD writes:

"In an examination of the statistics taken by the Bureau of Census showing the status of the laundry industry as indicated by the returns given in 1914, some quite remarkable differences are noted. For example, it shows that the power laundry owners of California received \$5.06 per capita; that is, the total receipts for the year equaled a payment of that sum by every man, woman and child in that State. In Massachusetts,

\$2.40; in Illinois, \$2.14; in Missouri, \$1.87. On the other hand, in South Carolina it was but 26 cents; in Georgia, 58½ cents; Alabama, 60 cents; Mississippi, 27 cents.

"In a survey of this kind it is, of course, necessary to take into account such conditions as may prevail in one section that practically do not obtain in another part of the country and make due allowance for them.

"The number of power laundries in the South is much smaller than in any other section. For example, in South Carolina there were but 23; in Georgia, 43; in Alabama, 41; in Mississippi, 27; a total of 134 for these four States; whereas in California there were 532; in Massachusetts, 391; New York State, 614; Illinois, 461; Missouri, 177.

"Some quite notable increases are shown to have taken place in the South in the five years—1909-1914—in the matter of receipts for work. The laundry owners of Florida enjoyed a gain of nearly 100 per cent.; North Carolina, 83 per cent.; Georgia, 62 per cent., while the increase for the entire country was 36 per cent.

"It would appear that there is in the South reasonable warrant for believing that there is room for considerable expansion in the laundry industry. It may really be the best field in the United States, for the reason that it is not so fully provided with power laundry plants as is the case elsewhere."

Government and Other Building Activity at Alexandria.

Alexandria, La., October 20—[Special.]—Fifty-seven days is the time consumed by the Stewart-McGhee Construction Co. in the construction of 1028 buildings at the Federal military cantonment at Camp Beauregard, near Alexandria. Work began August 4, and the buildings were completed October 1. Since that time the War Department has been making extensive enlargements and improvements, with an idea of permanency. A fraction over 17,500,000 feet of yellow pine lumber was used in the construction of the camp. Eight miles of railroad track were built through the camp and an extensive system of graveled roads is now being constructed.

Bountiful crops and the large expenditures at Camp Beauregard have brought great prosperity to Alexandria. This has had a stimulating effect on the building industry, and more buildings are under construction in this city than in many previous years.

Careful Harvest Will Save Largest Peanut Crop.

The largest peanut crop ever grown in this country will be harvested within the next few weeks. Whether it can be saved in its entirety for food and feed will depend upon the care with which it is harvested and stored, declare specialists of the United States Department of Agriculture. Accordingly, a brief circular carrying suggestions as to the right ways to dig, dry, pick and store the peanut crop has been prepared by the department for immediate distribution, and will be mailed to growers on request.

Many farmers, the specialists point out, are growing peanuts for the first time this year. Mistakes at harvest time may result in heavy losses to their crops. The methods which the specialists describe in their circular are those practiced by the most successful growers.

Large Shipments of Produce from Rio Grande Valley of Texas.

Corpus Christi, Tex., October 19—[Special.]—Reports that have just been made public show that 2219 cars of vegetables were shipped from the Rio Grande Valley during the present season, 1719 of the cars going out by freight and 500 cars by express. The figures were compiled by W. J. Doyle, industrial agent for the Gulf Coast Lines. The freight shipments included 843 carloads of cabbage, 381 carloads of onions, 58 carloads of lettuce, 127 carloads of potatoes, 37 carloads of watermelons, 80 carloads of miscellaneous produce, 178 carloads of mixed vegetables.

Exceedingly fine prices were secured for the products, in many instances farmers getting as high as \$230 per ton for cabbage, 6 and 7 cents per pound for onions, and the other produce bringing proportionately high prices.

CONTRACTS FOR BIG ELECTRIC PLANT.

Reported Expenditure of \$3,000,000 to \$4,000,000.

Contracts have been awarded for the construction and equipment of the big electric plant (reported to cost from \$3,000,000 to \$4,000,000) which the Kansas City Light & Power Co., Joseph F. Porter, president, Kansas City, Mo., will build to generate electricity for its lighting and power facilities.

Sargent & Lundy, engineers, Chicago, recently mentioned as to prepare the plans and specifications, advise the MANUFACTURERS RECORD:

"Have let all contracts for this electric generating station, and we are making plans. Location on bank of Missouri River in northeast section of city, 1½ miles down river from foot of Grand avenue. Laying out station for ultimate capacity of 250,000 kilowatts, of which 40,000 kilowatts capacity is to be installed at this time. First section of building 225x200 feet.

"Contracts for building foundations and superstructure have been awarded to the Foundation Company, New York and Chicago; steel ordered from the American Bridge Co., New York. Contracts for equipment as follows: Two 20,000-kilowatt turbines, General Electric Co., Schenectady, N. Y.; two condensing equipments, Worthington Pump & Machinery Corporation, New York; six boilers with 13,500 square feet heating surface each, Babcock & Wilcox Company, New York; six underfeed stokers, 16 retorts each, Sanford Riley Stoker Co., Worcester, Mass.; six cast-iron low-pressure economizers, with induced draft fans, Green Fuel Economizer Co., Matteawan, N. Y."

Pascagoula Shipbuilding Activity.

Pascagoula, Miss., October 22—[Special.]—The International Shipbuilding Co. (formerly the Henry Piaggio Shipbuilding Co.) is making great headway with its work, turning out 3000-ton ships.

On June 21 the company acquired land on the Pascagoula River 1600x1600 feet for its shipyard, and immediately began work. Six sets of ways have been built, four ships are under construction, machine shops and draughting-rooms have been completed, slips have been dredged and an immense supply of material has been gathered.

The company lately announced that it would in the near future begin the construction of steel ships (four of them of 8000 tons each), and the contract for the necessary steel has been let to an Eastern firm, to be brought to Pascagoula by an all-water route along the Atlantic and Gulf seaboard to the Pascagoula River. It has also announced that its location at Pascagoula will be permanent, and it is now building a 60-room employees' hotel and 60 cottages for its workmen. This company will also build its own electric-light plant and water-works, having lately received 21 fire plugs and cut-off valves for this latter plant. It will also build a large foundry and machine shop. When in full operation the International yards will have 16 sets of ways, 12 for wooden ships and 4 for steel. Manager Roof and P. F. Schriber, superintendent of the yard, have charge of the construction.

On October 18 the M. M. Flechas shipyard launched the new three-masted schooner Flechas, which is 165 feet over all, with 36 feet beam and 13 feet depth of hold. This vessel is built entirely of Mississippi pine from Laurel, Miss., except her spars, which will be of Oregon pine. She has a dead weight of 500 tons, and will carry 450,000 feet of lumber. M. M. Flechas is the proprietor of this yard and Ferd. Walker is its chief builder, both experienced in shipbuilding along the Gulf coast. The ship was built for local owners.

Cresotated Wood for Water Pipe.

A wooden water pipe 10,440 feet long and 12 feet in diameter, supplied by a Seattle company, will be used in a power development project in New York State. Douglas fir staves equivalent to 1,800,000 board feet of lumber will be used in the construction of the pipe line, 3500 feet of which will be of cresotated material and the balance of untreated wood. The cresotated portion will be laid in the portions of the line where the head

is not sufficient to insure perfect saturation of the wood by water. In the other sections, where the wood is saturated, cresotating is not considered necessary, since thoroughly water-soaked wood is not subject to decay.

There has been some popular prejudice to the effect that the taste of water is affected by the use of cresotated wooden pipe, but a series of exhaustive investigations conducted by the bureau of industrial research of the University of Washington in co-operation with the water and engineering departments of the city of Seattle and several industrial concerns is said to have shown that water running through cresotated wooden pipes does not acquire any foreign taste therefrom after the first two or three days of use, and other tests have demonstrated, it is stated, that after 30 years of continuous service in water cresotated wood retains approximately 70 per cent. of the quantity of oil originally injected into it.

Applicants Wanted for Enlisted Ordnance Corps.

There is a place for practically every man who knows a trade in the Enlisted Ordnance Corps. Machinists, mechanics, plumbers, painters, carpenters, canvas workers, auto mechanics, saddlers, blacksmiths and wheelwrights are especially needed at this time.

The Enlisted Ordnance Corps, National Army, into which the Ordnance Enlisted Reserve Corps has been merged, is charged with the supply, maintenance and repair of all cannon and artillery vehicles and equipment; all machines for the service and maneuver of artillery; all small arms, ammunition, harness, motor trucks, motor-cycles, tractors and railroad cars; in fact, it is the army behind the army commonly known as "service of the rear."

If accepted for enlistment, men will ordinarily be sent to an arsenal school for a period of instruction, on completion of which they will be assigned to detachments, units or organizations, with ultimate service abroad. Previous military training, while preferable, is not essential, as men will continue the work which they pursue in civil life.

Get application blank by writing to Chief of Ordnance, Enlisted Personnel Division, Washington, D. C. Fill it out, return to Chief of Ordnance, and if there is an opening for you at the time, authorization will be sent you to enlist at the nearest recruiting station, and if accepted there, free transportation will be provided to place of service.

Seawall for Corpus Christi.

Corpus Christi, Tex., October 20—[Special.]—Under instructions from the City Council, City Attorney Russell Savage is preparing papers for a special bond election, and within the next six weeks Corpus Christi will vote on the proposal to issue bonds in an amount of \$550,000 for the purpose of constructing a seawall in front of the city.

The election in reality is a mere formality, as the State Legislature at the last regular session gave to the city of Corpus Christi all State ad valorem taxes collected in Nueces county for a period of 15 years; the amount at present approximates \$66,000 per annum, which will be sufficient to pay 5 per cent. interest charges and create a sinking fund to retire the bonds at the end of the 15-year period.

Mayor Roy Miller has announced that the Council will appoint an advisory committee to work with the Council in carrying this big project to a successful conclusion, and it is the hope that as early as next February 1 actual construction work will have been started.

The plans, in brief, contemplate the building of a seawall approximately 300 feet from the shore line. Between the shore line and the wall the property will be filled and utilized for a boulevard, walks and parkways. The wall will be for an approximate distance of 3000 linear feet. Space will also be reserved for the shipping district, which will be located near the municipal wharf.

The West Indies, including Porto Rico, took \$191,195,791 worth of United States goods in 1916, according to the Department of Commerce, exceeding by 8 per cent. the total United States shipments to all South America in that year.

Too Much Retrenchment in Matter of Building Unwise.

A. D. WHIPPLE, Chicago, Ill.

Your reply to Mr. J. K. Grist, president of the Retail Merchants' Association of Beaumont, Tex., in your issue of October 4 is such that I feel that I can agree with every word of it.

The reading of your reply brings to my mind an idea in this connection. Idle men and idle dollars are a burden upon a community. Idle men consume our resources without producing. Idle dollars tie up our resources without producing. In times of peace, organizations have been built up and equipped for particular lines of endeavor and production. Some have been hampered by the existing conditions. Of all these, the building industry has perhaps suffered the most.

Thousands of idle men and idle dollars have been produced by the false idea that the present conditions are to be of but temporary duration.

These idle men and idle dollars, so long as there is a need for their activities, become a dead load and a handicap which interferes with our material progress and free action. It matters not whether it may be a hotel, a factory, a warehouse or a workman's cottage, an unsatisfied need for structures, just as an unsatisfied need for other commodities, causes us to work inefficiently.

A policy committing us to retrenchment in the matter of buildings will mean that we shall struggle along for a decade carrying a handicap; carrying a needless load at a time when we need our energies for the contest now going on.

There is no question but what Mr. Grist has struck the keynote when he suggests the use of concrete and reinforced concrete in place of seasoned lumber and steel, which two materials are now practically beyond the reach of common folks and are therefore unavailable. The supplies of Portland cement, sand and gravel are widely distributed and are available at all times.

I thank you for the words of encouragement to our friend in Texas.

New Cotton Factory and Storage Business.

Brunswick, Ga., October 19—[Special.]—The Cotton Factorage & Storage Co. is being incorporated by F. D. M. Strachan, head of the Strachan Shipping Co., one of the largest steamship and exporting concerns in the South, A. M. Ross of the same company and F. D. Aiken, president of the Brunswick Bank & Trust Co. A general cotton factorage and storage business will be conducted. The formation of this company completes plans for handling cotton through Brunswick, which began a year ago with the erection of a high and low density compress by the Glynn Compress Co. and the establishment of the Georgia Cotton Co. as cotton buyer and exporter. It is expected that a fertilizer factory will be established by local people unless one of the big companies establishes one in Brunswick soon, as there is a large territory in South Georgia that uses vast quantities of fertilizer, which can be reached on preferential rates from Brunswick to greater advantage than from other fertilizer distributing points. This fact seems to have been overlooked by the big fertilizer interests, but is well known to local capitalists, who contemplate establishing a large plant.

The Carolina of Pinehurst Opens.

Formal opening of the Hotel Carolina, Pinehurst, N. C., will take place on November 20, although a limited number of guests will be received before that date, states Mr. Leonard Tufts in his announcement. The hotel was greatly enlarged last year, and this season, its nineteenth, as of old, will find it the center of Pinehurst's winter golfing colony. Information regarding reservations, etc., will be furnished by Manager H. W. Priest, Pinehurst, N. C.

Central American deep-sea turtle food will be the product of a plant which H. J. Thurston and associates will soon complete at Bay St. Louis, Miss. The daily capacity will be 15,000 cans, and the products will include soup, beef and callipee for food and turtle oil used medicinally for lung affections. These turtle weigh from 300 to 600 pounds each.

The Iron, Steel and Metal Trades

STEEL MARKET QUIETS DOWN.

Disturbance Caused by Price-Fixing Passes Away—Prices Harmonious—Pig-Iron Shows Activity.

New York, October 22—[Special.]—The disturbance in the iron and steel markets caused by the price-fixing at Washington has passed away, and the markets resumed their usual routine business last week. While price-fixing depends upon voluntary agreement, it has developed that producers are accepting the prices as announced from time to time without quibble and declare that they will carry out to the letter the spirit of the agreements reached. As far as consumers are concerned, the agreement is that if and when producers sell it will not be at higher than the prescribed prices. Buyers, who expected that the reductions effected by the agreements would make steel plentiful as a market commodity, have, of course, been disappointed. Steel is less plentiful in the market, but physically quite the opposite. As week to week goes by consumers find less difficulty in securing deliveries against their requirements. Volume of specifications filed against contracts has been diminishing, while requirements in many quarters have been decreasing.

Government orders for steel have slowed up somewhat, but there is still a large tonnage to be placed, and the Government attitude is that the mills should be very conservative in selling to the public until its tonnage has been arranged.

Steel circles are expectantly awaiting an announcement from Washington relative to additional prices upon various products, such as scrap iron and steel, pig-iron, sheets, tubular goods and wire products. While the trade has been somewhat disappointed that prices heretofore announced did not include sheets, pipe and wire, it has been ascertained that it was the intention of the Washington authorities to first announce those on billets, sheets, bars, rods, etc., so that they could be used as the basis for recommending prices for wire, pipe and sheets.

It has taken the trade quite some time to adopt the view that scrap iron and steel prices could be regulated at all, but the Washington authorities have insisted that some form of regulation should be undertaken, and it is now believed that the effort will be made. However, control of these commodities cannot be rigid, both because there are some 114 or so varieties of scrap, and also because specifications vary materially with different buyers, while the rigidity of inspection varies with the state of the market. What will be undertaken, therefore, will be an approximate control, with only a few prices definitely fixed, while it does not appear at this time that the Government will go very far in formulating specifications.

As to heavy melting steel, the presumption is that it will be fixed in relation to pig-iron, which is already established at \$33 basic. According to the statistics of recent years, heavy melting steel ought to be about 10 per cent. lower, or \$30 delivered at mill.

While prices as high as 6 cents have been mentioned for black sheets, there is a prevalent opinion that, since sheet bars were fixed at \$51, about 5 cents for 28 gauge black sheets would be the correct figure. An uncertain point is whether or not gauge differentials are to be revised. If action is not taken in this respect there will be an awkward gap, as blue annealed should be as near to plates (3¼ cents) as to 28 gauge black sheets, and if so, the gauge would not merge.

The chief question relative to pipe is the consideration to be given to mills not producing skelp. In the past the open market has not recognized them to any great extent, as when the general market advanced the quoted prices on skelp and pipe would not allow a manufacturing profit, and if the pipe mills made a profit it would be by having a low-priced skelp contract. That could not occur now, of course, as the detached mill would have to pay 2.90 cents for grooved, 3.15 cents for universal and 3.25 cents for sheared skelp, according to the schedule fixed a fortnight ago.

Practically all the tonnage that tinplate mills owe holders of contracts has already been specified for, and the volume is so heavy that deliveries of a very consid-

erable tonnage will hold over until next year. In some instances the mills will hardly be able to clear their books by the end of January. It will thus be seen that, except in exceptional cases, little tinplate is available in the open market at present. The jobbers are also practically cleaned out.

Important orders for war munitions, including ordnance, shells, gun mounts, gun mechanisms and shell parts, were announced last week by the War and Navy departments. Plant extensions are being made by the Forest City Machine & Forge Co. at Cleveland, O., to execute an order for 2,300,000 detonators for three and four-inch shells. A Government contract for guns and gun mechanisms has been awarded to the Standard Ordnance Co. of Hamilton, O., and the Cleveland Ordnance Co. is now buying shop equipment to execute orders for forgings and for turning and boring three-inch guns. Machinery manufacturers at Dayton, O., have taken orders for \$25,000,000 worth of shells, for which they are now buying machine tools. There are also many other Government orders on the market.

The pig-iron market is showing signs of life for the first time since the new Government prices were fixed. Sales were quite numerous last week, but all were for small tonnages at early deliveries. Furnaces are helping out their regular customers as needs arise, but are naturally indisposed still to offer indiscriminately the limited tonnages they may be able to spare from time to time. A sale of a large tonnage of basic iron at \$33 furnace was reported on Friday of last week for shipment over the first half of next year.

According to reports from the Central West, sales made in all districts in the last two or three weeks amounted to nearly 200,000 tons, of which a little less than half was sold in the territory east of the Allegheny Mountains. Thus far it is difficult to verify sales, as the majority of them have been made quietly. The significant fact at this time is that there is an active demand for small lots of foundry grades for this year's shipment in lots running from 200 up to 1000 tons each. Many of the large producers, especially at Buffalo, have sold their capacity to April and May of next year. It is predicted that there will be a shortage of iron in the next few months. Most of the new inquiries for pig-iron now in the market come from manufacturers of machine tools and other machinery. The heavy war demand for machine tools is being reflected in many lines of trade.

QUIET CONDITIONS IN THE METAL MARKETS.

October Deliveries of Copper on Old Contracts—Lead and Spelter Quiet—Tin Firm.

New York, October 22—[Special.]—There has been no change in the conditions of the metal markets from those reported two weeks ago. The Copper Producers' Committee held meetings every day last week, at which requests for permits to make shipments to American consumers on old contracts were presented by copper producers, and when granted were issued to them, thus releasing shipments asked for. Each shipment is passed upon as a separate proposition and permit is issued to release only for a definite amount, and to a definite consumer. In some cases buyers have been notified that conditions permit of shipment to them of all October copper contracted for, and sales agents have been so notified. This does not mean that there will be any 23½-cent copper available as new purchases to general consumers for some time to come. It all depends on how quickly old contracts are filled. Buying has ceased for manufactured copper, partly because of the certainty of a 23½-cent market in the future, while present prices for manufactured copper remain on a basis of prices ruling before the Government action.

The American Smelting & Refining Co. reduced its price on lead last week one-eighth cent per pound for prompt shipments and one-quarter cent per pound for November and December deliveries, thus making the price 7 cents per pound. There is an opinion in the trade that the position of the metal is statistically an unfavorable one; that with business unsettled, with the prospect that the Government price is likely to be fixed

at 6 cents a pound, and with the leading interest's price cut one-eighth cent a pound, any changes in the market will be in the direction of lower prices. The market was, therefore, dull last week, and buyers very shy. It is understood that when the War Industries Board undertook to care for the Government's lead requirements it estimated the needs for three months to end with October would approximate 25,000 tons, which was to be purchased at 8 cents a pound. With October now almost gone, the Government has taken only 14,000 tons.

Complete stagnation existed in the spelter market last week. Brass manufacturers, on account of the fixing of the price on copper, are getting no new orders, and the sheet iron galvanizing trade, who have not ascertained as yet what price is to be fixed on galvanized sheets, are also receiving no orders and their trade is at a standstill. It is, therefore, not strange that they are buying no spelter at present. There was no pressure to make sales of spelter by producers, and prices were easy at about 8.17½ cents per pound for the week.

There was a good inquiry for tin last week in all positions, with the same extreme difficulty in getting anything offered at the proper concessions under the spot price for November-December delivery. Orders were reported on the market of October tin from the East Indies at around 59½ cents and of spot tin at 61¼ cents a pound, but the gap between these two positions is very difficult to fill. It would appear to be a good policy for consumers to continue to buy far-off futures.

Birmingham Busy on Old Orders.

Birmingham, Ala., October 22—[Special.]—New business is absolutely out of the question with Southern pig-iron manufacturers, and as far as can be learned there has been very little iron sold, if any at all, since the Government price schedule was announced, several weeks ago. This statement is not only given out in conversation, but actual reports made up week after week show no new sales. There is no less effort noted on production and delivery on old contracts, and the estimate now is that there will be need for a full production for at least six months yet, through the first quarter of the coming year. But little better success is to be noted on production and delivery of iron in the Birmingham district, raw material being given as the cause of the lagging production. Inquiries for iron are again noted, and during the past week small consumers of foundry iron were practically begging for the product, being willing, if possible, to pay more than Government price. Consumers who placed business several months ago and at higher prices than that fixed by the Government are still urging deliveries on the contracts, indicating a need for iron. Belief is expressed here that in the revision of the price schedule by the Government there will be no lower price made on iron. If there have been any readjustments on old contracts, manufacturers in the Birmingham district are not saying anything. All work on furnace repairing in this territory is being rushed, another indication of confidence in the future of the iron market.

Foundries and machine shops continue busy with Government contracts very prominent, of which little can be given out. Cast-iron pipe plants are melting iron steadily, though contracts are being sought and a number of them would be most acceptable. Reports are to be heard that Government needs in cast-iron pipe, much of it to be supplied from the Birmingham district, are extensive.

Steel mills are working to full capacity, mainly on Government and Allies business.

While dealers in scrap iron and steel, old material, say there is a little more strength in the market; that there has been some recovery in general conditions so far as demand goes; that the quotations have again declined a little, and can be considered weak. Larger consumers of various old material products are practically setting their own prices and are being accommodated right along. Stocks is plentiful with the dealers, and prospects are that for a long time to come there will be as much stock as could be desired. Some intimation is heard that the Government price schedule on scrap iron and steel will be along the same lines as pig-iron and steel. Already the iron and steel market conditions have affected the scrap market. The same report comes from other branches of the industry, cast-iron pipe, foundries and machine shops and in other directions. Steel mills are using quantities of heavy melting

steel scrap, but there has been a reduction in price of 50 cents in the past week. With but two exceptions, there have been changes in the quotations in the list given in this branch of the industry, and the statement is made that there is no telling whether these prices will remain stationary for 24 hours at a time. Inquiries are being received by scrap dealers here as to brass and other products not listed ordinarily. Dealers are carrying on a steady line of correspondence, and the remark is made that consumers are making offers mostly as to what they will give for the product.

Following quotations are given:

| PIG-IRON. | |
|--|--------------------|
| No. 2 foundry or No. 2X, Pittsburgh..... | \$33.00 |
| OLD MATERIAL. | |
| old steel axles..... | \$32.00 to \$33.00 |
| old steel rails..... | 23.00 to 24.00 |
| No. 1 wrought..... | 24.50 to 25.50 |
| heavy melting steel..... | 20.00 to 20.50 |
| No. 1 machinery..... | 22.00 to 22.50 |
| Car-wheels..... | 21.50 to 22.50 |
| Tramcar wheels..... | 19.00 to 20.00 |
| Stove plate..... | 16.50 to 18.00 |
| Shop turnings..... | 11.00 to 12.00 |

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

REGULATION OF RAILROADS.

Samuel Rea Favors It, and Also Mergers, Traffic Pooling, Etc.

President Samuel Rea of the Pennsylvania Railroad system spoke to the members of the National Association of Railroad Commissioners at Washington last week on how the States can co-operate in the efficient national regulation of railroads. He told them that he believed, as did the late A. J. Cassatt, a former president of the Pennsylvania Railroad, that railroads are partial monopolies and must be regulated by Government, but regulated so as to be not only protective of the people, but of the railroads themselves, which are really publicly owned by hundreds of thousands of individual citizens.

Mr. Rea suggested that the railroad commissioners abolish useless reports and simplify accounting, many of these reports asked of the railroads' accounting forces had been obliged to enter the army and they are short-handed, so that this relief is urgently needed. He also said that the State commissioners should strive to co-ordinate their work with that of the Interstate Commerce Commission, for it ought not to be necessary to spend weeks or months in working out a rate adjustment with the Federal body and then have to do the same thing with the State commissions of every State affected. He hoped to see the time when State railroad commissions would regularly send their representatives to Washington to attend the hearings of the Interstate Commerce Commission for the specific purpose of harmonizing action and reducing the unnecessary burden which has been laid upon the railroads. And railroad regulation should be upon an economic and not upon a partisan basis.

Railroad absorptions and consolidations were favored by Mr. Rea on the ground of efficiency. He said that 2585 separate railroad companies report to the Interstate Commerce Commission, and he thought that at least 200 of them could be merged into the larger systems with vast benefit to the public and everyone else concerned. Obsolete anti-merger laws should be wiped out. Furthermore, traffic pools ought to be legalized and the railroads exempted from the operations of the Sherman law.

Mr. Rea also said that a practical valuation of railroad properties is possible at a reasonable cost, and that the States should work for a real governmental valuation. Summing up, he asked aid and co-operation to secure simplification of accounting, elimination of unnecessary reports, prompt according of reasonable rates, legalizing of pooling of traffic under proper public supervision, encouragement of mergers to promote efficiency, relief from obsolete restrictions of State statutes and the Sherman law, and obtaining real valuation of the railroads. He urged the commissioners to consider

how narrow a margin of earnings is allowed the railroads under public regulation, and they would realize why it is impossible to provide the capital requisite for adequate terminal facilities and to otherwise keep the railroads well in advance of the growth of traffic.

J. N. WILLYS NOW IN THE WESTERN MARYLAND.

George J. Gould Retires from the Board After Fourteen Years.

J. N. Willys of Toledo, Ohio, president of the Willys-Overland Company, automobile manufacturers, was elected a director of the Western Maryland Railway Co. at the annual meeting last week to succeed George J. Gould of New York, who has retired from the board after being a member of it for 14 years, or since the road was purchased by the Fuller syndicate. It was proposed by the Goulds to connect the line with the Wabash Railroad and thus make a coast-to-coast system under their control in connection with the construction of the Western Pacific Railway.

M. C. Byers, assistant to President Carl R. Gray, has also been elected a director.

The stockholders furthermore approved the proposed general and refunding mortgage for \$150,000,000 of bonds, and also the proposed issue of \$5,000,000 of 7 per cent. three-year notes dated November 1, 1917.

The \$5,000,000 of 7 per cent. notes will be taken, it is announced in New York, by John D. Rockefeller and associates.

Important Coal Line to Be Built.

Krypton, Ky., October 22.—[Special.]—Announcement has just been made here that an important 32-mile branch of the Louisville & Nashville Railroad will be built from Krypton, on the North Fork extension, to Buffalo Creek, Owsley county, penetrating an extensively rich undeveloped coal field in Perry, Leslie and Owsley counties, crossing the Middle Fork of the Kentucky River in Leslie county. The whole of the Middle Fork section of Leslie county has no railroad.

The incorporators of this line, called the Middle & South Fork Railroad are W. H. Porter, N. P. Mann, A. R. Stephens, E. H. Fuller, T. C. Fuller, W. R. Snyder and W. E. Williams, all of Lexington, Ky., and who own considerable acres of coal-mine lands along the route. It is announced that a survey will be made immediately, also an estimate of the cost of construction.

It is believed that the first of the year will see construction started.

Japanese Studying Our Railroads.

The United States Department of Commerce announces that a special mission representing the Imperial Japanese Railways, which arrived in this country on the Pacific coast, will make a study of transportation and industrial conditions throughout the United States. Secretary Redfield arranged to entertain the visitors until they reached Washington and named a representative of the Bureau of Foreign and Domestic Commerce who can speak Japanese to personally conduct them. Prominent railroad men have offered every facility for their studies. A particular study of railroad classification yards will be made. The Japanese Railways are represented by Jiro Nakamura, assistant traffic manager; Akio Kasama, secretary and purchasing agent; Dr. Yasujiro Shima, director of machinery and rolling stock, and S. Kobayashi, resident engineer at New York.

New Freight Station at Bessemer.

The Alabama Great Southern Railroad of the Southern Railway system has just completed a new freight station at Bessemer, Ala., the construction of which was begun a year ago. The building is 265x33 feet, with a platform 350 feet long. It is of reinforced concrete and brick, and is equipped with steel windows and freighthouse doors. The floor of the freighthouse is made of wooden blocks. The equipment includes sanitary plumbing and low-pressure heating system. There are ample house and team tracks. This new station,

which is now in service, is situated between 17th and 18th streets, and is convenient to the business part of the city.

Typewriter Operated by Telegraph.

The Southern Pacific Company has just put in operation between Ogden and San Francisco a set of Morkrum printers which raises the telegraph system between these points to the most standard of correspondence by wire. The Morkrum printer is a device whereby a perforated tape at one end of the wire operates a typewriter at the other end. Two clerks are required at each end, and messages may be sent and received over one wire. The new circuit is handling 2000 messages within about 13 hours per day, and could handle 25 per cent. more if necessary. San Francisco and Los Angeles are also connected up the same way.

Bristol Traction Co. to Wind Up.

The Bristol Traction Co., Bristol, Tenn., which was recently sold at receiver's sale, has ceased to operate its lines, as was expected, and a report from there says that the cars, tracks and other equipment will be disposed of as soon as a buyer can be found. The Holston Valley line will, however, continue to be operated. It is anticipated that a jitney automobile service will replace the railway for city and suburban transportation of passengers.

Official Changes.

Ben Steele will become president and general manager of the Atlanta & St. Andrews Bay Railway on November 1, according to announcement at Atlanta, which says that Asa G. Candler has disposed of his interests in the line and has resigned as president; also that R. A. McTyer, general manager; Walter T. Candler, treasurer, and Walter White, secretary, have also severed their connection with the company. The road, it is stated, is now on a substantial financial basis.

M. J. Caples has been made vice-president of the Chesapeake & Ohio Railway, with headquarters at Columbus, Ohio, where he has been for several years in charge of construction of the Chesapeake & Ohio Northern Railway. He also represents the company in Indiana.

W. J. Tremaine has been appointed assistant general freight agent, with headquarters at Shreveport, La., for the Alabama & Vicksburg and the Vicksburg, Shreveport & Pacific Railways. He formerly was commercial agent at Chicago for these roads, where he has been succeeded by H. E. Freund.

O. P. McCarty, passenger traffic manager of the Baltimore & Ohio Railroad, was elected president of the American Association of Passenger Traffic Officers at their annual convention at St. Louis.

New Equipment, Etc.

Illinois Central Railroad will purchase 75 locomotives thus: 50 Mikado type, 21 switchers and 4 hump yard switchers. The company will also build a number of freight cars in its own shops, perhaps 1000 of them.

Central of Georgia Railway has ordered 16 passenger cars from the Pullman Company, Chicago. It will also build 200 freight cars in its own shops.

Pennsylvania Railroad has ordered 700 tons of bridge steel from the American Bridge Co.

Tulsa (Okla.) Street Railway is having 10 cars built by the American Car Co., St. Louis.

Baltimore & Ohio Railroad will build 100 cabooses in its own shops.

Chesapeake & Ohio Railway has ordered 650 tons of bridge steel from the Mount Vernon Bridge Co.

Valdosta (Ga.) Street Railway has purchased two cars from the Waycross Street Railway.

"Santa Fe" System's Year.

The annual report of the Atchison, Topeka & Santa Fe Railway for the year ended June 30, 1917, shows

operating revenues, \$156,179,120; increase as compared with the previous year, \$22,416,728; operating expenses, \$96,323,569; increase, \$12,602,609; net operating revenue, \$59,855,551; increase, \$9,814,119; operating income after taxes and uncollectible railway revenue, \$49,951,674; increase, \$6,171,681; balance after charges and dividends, etc., \$19,958,758; increase, \$6,009,989. Taxes increased about \$3,500,000.

TEXTILES

To Manufacture Silk Goods.

A \$30,000 equipment of machinery for manufacturing silk goods will be installed at Danville, Va., by the Dan City Silk Co., which has been organized with \$50,000 capital by the Bentley & Twohey Silk Co. of Trenton, N. J. This new company has leased a one-story 140x85-foot building, which will be remodeled according to plans and specifications by Heard & Cardwell of Danville. It will employ 50 male and 50 female operatives, with a weekly payroll of \$2500.

\$200,000 Hosiery Knitting Company.

Knit hosiery will be the produce of the People's Hosiery Mills of Wilmington, N. C., which has been incorporated by E. Fred Bauck, Stacy Adams and E. T. Burton. The capital stock is \$200,000.

Core Fabrics for Tires.

An investment of \$1,040,000 is proposed for a tire fabrics plant to be built by the Norfolk (Va.) Tire Fabrics Co., which has been organized by Benjamin C. Brownell, the architect being Russell Edward Mitchell of Norfolk. Mr. Brownell wires the MANUFACTURERS RECORD:

"Building 625 feet long by 204 feet wide, of brick, steel, concrete and glass construction, costing \$300,000. This structure to be equipped with machinery costing \$740,000, for a weekly capacity of 50,000 pounds of core fabric."

Textile Notes.

Fifty knitting machines have been added by the Highway Knitting Mills, Icard, N. C.

A 100x60-foot plant will be constructed by the Icard (N. C.) Manufacturing Co. for its dyeing and finishing equipment, lately noted to be installed.

The Whitin Machine Works of Whitinsville, Mass., will furnish the 6000 spindles and accompanying machinery recently mentioned as to be installed by the Maginnis Cotton Mills of New Orleans. This additional machinery will manufacture sewing twine for the company's bag factory.

Louisiana's Table Syrup Crop Worth \$2,000,000.

New Orleans, La., October 18—[Special.]—Louisiana will make approximately 5,000,000 gallons of sugar-cane table syrup this year. This syrup production will be worth in the neighborhood of \$2,000,000 on the plantation, or approximately 40 cents a gallon.

There is also a considerable increase noted in the manufacture of sorghum syrup throughout Louisiana and Mississippi, which has begun to move to this city in fairly good-sized quantities.

To Drill for Oil on Galveston Island.

Galveston, Tex., October 18—[Special.]—Another effort to find oil on Galveston Island is to be made shortly. A lease has been secured on 200 acres of land nine miles south of the city by the individuals organizing the Island Oil Association, and a contract has been let for drilling two wells. No wells have been sunk on the island since 1902. In that year a well was drilled and two oil-bearing strata found, one at a depth of 800 feet, but as the prospectors were looking for a gusher—the only type of well considered a paying proposition then—it was abandoned.

Good Roads and Streets

SOUTHERN HIGHWAY ACTIVITIES.

Details in regard to road and street undertakings and bond issues, briefly mentioned below, are given under the proper headings in our "Construction Department" and "New Securities," published elsewhere in this issue.

Bonds Voted.

Jasper, Tex.—Jasper county voted \$500,000 bonds for constructing roads.

Key West, Fla.—Monroe county voted \$60,000 bonds for constructing 22-mile highway.

Bonds to Be Voted.

Ada, Okla.—Pontotoc county votes November 16 on \$570,000 bonds for building roads and bridges.

Corsicana, Tex.—Nevado county votes November 10 on \$60,000 bonds for road construction.

Ellisville, Miss.—Town votes November 6 on \$3000 bonds for street improvements.

Contracts Awarded.

Charleston, Mo.—City awarded \$76,000 contract for street paving.

Crowley, La.—City awarded \$30,000 contract for gravel paving with curb and gutters.

Emmitsburg, Md.—Town awarded \$9000 contract for street paving.

Little Rock, Ark.—City awarded \$79,000 contract for paving and drainage.

Little Rock, Ark.—City awarded \$79,000 contract for paving 30 blocks of streets.

Pensacola, Fla.—Government awarded \$17,800 contract for paving 1-mile highway between aeronautic station and army post.

Pittsboro, N. C.—Chatham county awarded \$30,000 contract for grading and surfacing roads.

Wedowee, Ala.—State awarded \$7100 contract for constructing 4-mile road.

Contracts to Be Awarded.

Bayboro, N. C.—Pamlico county receives bids until November 5 for constructing 12½-mile natural-soil highway.

Brewton, Ala.—Escambia county receives bids until November 19 for building 9-mile highway.

Coffeeville, Miss.—Yalobusha county receives bids until November 5 for constructing 15 miles of road to cost \$20,000.

Little Rock, Ark.—Pulaski county receives bids until October 29 for constructing 7-mile highway.

Little Rock, Ark.—Pulaski county will construct 7-mile highway and has \$25,000 available for this improvement.

Perry, Fla.—City will expend \$75,000 for street improvements and contemplates asphalt construction with macadam base.

Van Buren, Ark.—Crawford county will build 32-mile macadam road, estimated to cost \$110,000.

Maintaining Sand-Clay Roads.

Everybody who has driven over an earth road knows that some well-drained sections are likely to be much better than others equally well drained, but the reason for this is rarely understood. In most cases the good road is due to the fact that the sand and clay forming the surface are mixed in proportions which will give the most dense combination. There is just enough clay to bind the sand together. Hundreds of miles of good roads are now being built, duplicating artificially the conditions existing in these naturally good sections of dirt roads. The mixing of the sand and clay is carried on by well-developed methods and gives a good road for light traffic.

There have been many miles of these roads built in North Carolina, and during the last winter a good many of them went to pieces. There was a tendency to attribute this to a failure of the type of construction, but an investigation made by Dr. Joseph Hyde Pratt, secretary of the North Carolina Highway Commission, indicates that the trouble was due to the imperfect maintenance of the roads, which were so weak in consequence that the severe conditions of the winter inevitably dam-

aged them, as they would have damaged any other type of construction which had been neglected until it was ready to go to pieces. Dr. Pratt insists that a sand-clay road can be maintained in good condition for any traffic for which the type is fitted by an intelligent use of the road drag. The purpose of dragging such a road is not to bring new material up on it, but to smooth out the ruts and holes by shaving material from the high places into them and rubbing it into a dense condition there. If this is done after every heavy rain a well-built sand-clay road can generally be maintained in excellent condition. It is important, however, not to scrape material from the side ditches over the roadway, because this material is not fitted for filling depressions. It usually has unsatisfactory proportions of sand and clay and often contains so much organic matter that it is incapable of becoming consolidated into a hard surface.

Where a road has become badly rutted and filled with holes, so that dragging will not remedy the neglected surface conditions, Dr. Pratt recommends reshaping the road with a road machine and then dragging it thoroughly after the first rain. If it is necessary to add new material on the surface, great care should be taken that it contains the sand and clay in the right proportions for the work, and, if possible, is the same material used in the original construction of the highway. In general, Dr. Pratt believes that the sand-clay road, if it has been surfaced with the right kind of material, has been constructed properly and maintained efficiently, will prove a good highway, even under as severe conditions as those existing in North Carolina last winter. But this type of construction must be well maintained, and unfortunately there has been a lack of good maintenance throughout the State, particularly noticeable where the traffic has considerably increased since the roads were built.

\$1,125,000 Street Paving Completed.

With the completion of the Cedar street paving with wood blocks at a cost of \$19,959, the municipal officials of Nashville, Tenn., have expended a total of \$1,125,000 for street paving during the past 18 months. Nearly 100 miles of highway have been improved in this work, and further extensive paving will probably be undertaken during 1918.

Mexican Requirements for American Lumber.

Laredo, Tex., October 20—[Special.]—Shipments of lumber are moving into Mexico from the different ports of entry. Orders are being filled mostly by Texas and Louisiana mills, and by local dealers in Laredo, Eagle Pass and Brownsville. Since October 1 more than 50 cars of railroad cross-ties have crossed the border into Mexico, where they are to be used in rehabilitating the railroads of that country. Besides these shipments there is a heavy movement of bridge timbers and various other kinds of materials that are needed in the repairing of the railroads, the building of cars, freight and passenger stations and various other improvements.

Advices have been received here that lumber yards at Monterey, Torreon, San Luis Potosi, Aguas Calientes and the City of Mexico are being restocked as rapidly as orders which have been placed in the United States can be filled. As yet there has been no general revival of lumber manufacturing in Mexico, although the two mills of the Medera Company at Pearson, State of Chihuahua, are now again in operation, and arrangements are being made by that company to reopen its large mills at Madera, in that State. Most of the output of the Pearson and Madera mills is shipped to El Paso, where it largely enters into the manufacture of boxes and crates at the plant which the Pearson syndicate operates there.

Some of the lumber mills in the State of Michoacan are again running, and their product is shipped principally to the City of Mexico. It is stated that the Llano Grande Lumber Co., which owns the tract of 500,000 acres of pine timber in the State of Durango and a mill of 250,000 feet capacity, expects to get its plant in operation as soon as the railroad running from Durango to Llano Grande is placed in repair, so that lumber and log shipments may be made over it.

That it will require enormous quantities of lumber and other construction materials to rehabilitate the industries of Mexico and bring them up to pre-revolutionary standards is quite apparent. Mine timbers in large quantities will be needed, and these will have to be obtained chiefly from the United States.

Construction Department

IN ORDER TO FOLLOW UP

Properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the post-office will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year.

All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.

AIRPLANE PLANTS, STATIONS, ETC.

Fla., Pensacola.—Navy Department, Washington, D. C., let following contracts for improvements at aeronautic station in addition to work now under construction; C. H. Turner Co. at \$34,919 for repairs to 12 wooden hangars damaged by storm, repairs to several hangars erected by Government, and crosscut wooden bulkhead along Warrington Beach to protect hangars from high water; also to Turner Company at \$13,233 to build seaplane dock to extend from erecting shops 230 ft. into bay and be partly submerged to permit docking of seaplanes; Henry Monk at \$9000 to repair Building No. 40, warehouse partly unroofed by storm; at \$1250 to repair hangars Nos. 1, 2 and 3, steel permanent hangars slightly injured by wind; at \$17,890 to pave road between aeronautic station and army posts, about 1 mi.; S. F. Fulghum at \$3972 for work on quarters; all contractors of Pensacola.

BRIDGES, CULVERTS, VIADUCTS

D. C., Washington.—Comms. Dist. of Columbia, 509 District Bldg., will construct 7-span steel plate girder highway bridge, abutments, piers and approaches on Benning Rd. crossing tracks of Philadelphia, Baltimore & Washington R. R. and Baltimore & Ohio R. R.; bids until Nov. 20. (See Machinery Wanted—Bridge Construction.)

Md., Aberdeen.—War Department, Washington, D. C., will construct bridges and culverts at ordnance proving grounds. (See Land Development.)

Mo., Kansas City.—City Council will appropriate \$200,921 toward construction of Twenty-third Street viaduct to be constructed jointly by city, Kansas City Railways Co. and various railroads; structure will connect with viaduct built to State line by Kansas side; reinforced steel and concrete; estimated cost \$600,000; Harrington, Howard & Ash, Consol. Engrs., Kansas City; Curtis Hill, City Engr.

Okla., Ada.—Pontotoc County, Milton Garner, County Clerk, will vote Nov. 16 on \$579,000 bonds for roads and bridges.

Tenn., McGhee.—Fort London Bridge Co., J. C. Anderson, Pres., Venable, Tenn., will construct steel bridge across Little Tennessee River at Indian Rock near McGhee; open bids Nov. 28 instead of Oct. 25, as at first stated. (See Machinery Wanted—Bridge Construction.)

see River at Indian Rock near McGhee; open bids Nov. 28 instead of Oct. 25, as at first stated. (See Machinery Wanted—Bridge Construction.)

Tex., Dallas.—City let contract McCall-Moore Engineering Co. of Waco, Tex., at \$26,500 to construct concrete bridge across Turtle Creek at Lemmon Ave. in Oak Lawn.

Tex., Gainesville.—Gainesville Red River Bridge Co., H. W. Stark, in charge, let contract Midland Bridge Co. of Kansas City at \$60,000 to construct 1000-ft. steel bridge across Red River at Sacra's Ferry, 7 mi. from Gainesville. (Lately noted.)

Va., Disputanta.—Supvrs. Prince George County will construct 2 steel bridges across Black Water Swamp; receive bids until Nov. 1. (See Machinery Wanted—Bridge (Steel) Construction.)

W. Va., Job.—Randolph County Court, Elkins, W. Va., let contract to Enterprise Construction Co., Elkins, to construct 60-ft. reinforced concrete arch bridge, cost \$3600; F. A. Parsons, Engr., Beverly, W. Va.

CANNING AND PACKING PLANTS

Fla., Homestead.—J. B. Moffett, Secy.-Treas., W. D. Horne Packing Co., contemplates building plant for canning tomatoes; plant to include equipment for converting tomatoes into pulp or paste. (See Machinery Wanted—Canning Machinery.)

Ga., Brunswick.—Glynn Canning Co. will enlarge shrimp and oyster cannery; erect 2-story building; install additional machinery; contracts awarded.

Ga., Statesboro.—Bulloch County Packing Co. is reported contemplating additions to meat-killing and packing plant; daily capacity 400 hogs and 100 beefs.

Ga., Waycross.—J. H. Bennett, J. S. Elkins and others are interested in organization of company to build cannery.

La., Lockport.—R. J. Boudreaux, Erath, La., will build fig and vegetable cannery.

CLAYWORKING PLANTS

Tex., Elgin.—Brick and Tile.—Elgin Brick & Tile Co. officers in San Antonio, Incptd. with \$100,000 capital by S. F. Kirksey and J. D. Guinn, San Antonio, and others; factory in Bastrop County near Elgin.

COAL MINES AND COKE OVENS

Ala., Birmingham.—Birmingham Coal & Iron Co. chartered with \$1,000,000 capital by Oscar R. Hundley and others.

Ala., Birmingham.—Inland Coal & Iron Co. chartered with \$1,000,000 capital by Oscar R. Hundley and others.

Ala., Birmingham.—Flat Creek Mining Co., capital \$2000, incptd. to develop mining property at Flat Creek; I. W. Shelton, Pres.-Treas.; B. G. Skelton, V.-P.; L. L. Skelton, Secy.

Ark., Hartford.—Mielmier Coal Co. incptd. by W. H. Mielmier, E. C. Mielmier and W. J. Mielmier.

Ky., Ashland.—Long Fork Coal Co. organized; W. F. Ellis, Pres.; B. F. Preston, V.-P.; Sam Porter, Secy.-Treas.; W. H. Jones, Mgr.; develop 250 acres coal land; daily output 5 car loads; capital \$25,000. (See Machinery Wanted—Rails; Cars.)

Ky., Balkan.—Richland Ridge Coal Co., capital \$1200, incptd. by J. S. Greene, I. E. Adair and Chas. Clayton.

Ky., Calla.—Progressive Coal Co., capital \$10,000, incptd. by J. W. Baker and B. F. Hurst.

Ky., Corydon.—Corydon Coal Co. increased capital from \$30,000 to \$70,000.

Ky., Drift.—Long Fork Coal Co. incptd. by L. F. Preston, H. McGuire and W. H. Jones of Prestonsburg, Ky., and others. Mr. Jones is Mgr.

Ky., Emanuel.—Mason Coal Co., capital \$10,000, incptd. by Grant Mason, Jesse Turner and J. D. Turner.

Ky., Harlan.—Middletown Coal Co., capital \$20,000, incptd. by W. S. Wood, Margie Noe and Harmon Noe.

Ky., Louisville.—Black Creek Coal & Iron Mining Co., capital \$5000, incptd. by Homer Blader, E. L. Bassett and R. A. Pursell.

Ky., Middlesboro.—East Point Coal Co., capital \$10,000, incptd. by J. L. Manning, F. L. Hess and W. E. Cabell.

Ky., Livingston.—Livingston Coal Co., capital \$1500, incptd. by B. D. Fannon, Michael Fannon and R. B. Winkler.

Ky., Prestonsburg.—Black Diamond Coal Co. increased capital from \$15,000 to \$30,000.

Ky., Prestonsburg.—Northern Elk Coal Co., capital \$10,000, incptd. by W. T. Hatcher, D. C. Cooley and S. C. Ferguson.

Ky., Stone.—Lawrence T. Tierney Coal Co., capital \$50,000, incptd. by Lawrence E. Tierney, R. H. Heyser and L. H. Clark.

Ky., Willard.—Lick Creek Coal Co., capital \$3000, incptd. by L. M. Killgore, W. A. Biggs and J. W. Crawford.

Tenn., Oneida.—A. B. Day, lately noted with John F. Shea of Knoxville, Tenn., as purchasing 54,000 acres Scott County coal land from New River Coal & Coke Co., advises Manufacturers Record: Land was purchased as investment; coal and oil; will incorporate and lease boundaries to coal operators.

W. Va., Adrian.—Splint Coal & Coke Co. organized; Logan Rush, Pres.; G. O. Rush, Secy.-Treas.; W. E. Rice, Mgr.; all of Connellsville, Pa.; develop 470 acres coal land. (Lately noted, under Buckhannon, as incptd. with \$200,000 capital.)

W. Va., Alkol.—Arlomor Coal Co., capital \$50,000, incptd. by A. E. Moore, Arlon C. Moore, Wm. G. Conley all of Charleston, W. Va., and others.

W. Va., Follansbee.—Joarnold Coal Co., capital \$50,000, incptd. by R. Humes and John J. Walker of Follansbee, John S. Liggett of Wellsburg, W. Va., and others.

W. Va., Lenore.—Himler Coal Co., capital \$50,000, incptd. by Jos. Hartley, Louis Hantzinger, Louis Berta and others.

W. Va., Little Falls.—Canadian Coal Co., capital \$50,000, incptd. by E. G. Rankin of Blackshear, Ga.; Will Atkinson and G. M. Gribble of Pittsburgh, Pa., and others.

W. Va., Logan.—Logan-Guyan Coal Sales Agency, capital \$5000, incptd. by Harriett I. Butts, Anna G. Copley, Maude Steele and others.

W. Va., Monongalia County.—Connellsville Big Vein Coal Co., capital \$75,000, incptd. by J. L. Kendall of Pittsburgh, Pa.; S. A. Kendall of Meyersdale, Pa.; D. H. Horton of Connellsville, Pa., and others.

W. Va., Northfork.—Keystone Coal & Coke Co. will build steel tippie.

W. Va., Wheeling.—Echo Coal Co., capital \$50,000, incptd. by C. H. Brues, Boyd C. Greene, John M. Garden and others.

W. Va., Welch.—Pocahontas & Crystal Block Coal Sales Co., capital \$25,000, incptd. by L. E. Woods, C. V. Updyke, P. H. Spencer and others.

COTTON COMPRESSES AND GINS

Ark., Rosa.—Rosa Gin Co., capital \$175,000, incptd. by J. C. Spann, H. E. Fisher, R. W. Thomas and T. B. Dudley.

Okla., Atoka.—Durant Cotton & Oil Co. will rebuild cotton gin reported burned at loss \$9000.

Okla., Shamrock.—Shamrock Custom Gin Co. incptd. by K. Farha, M. H. Newman and C. C. Townsend; capital \$6000.

Tenn., Covington.—Churchill & Company will rebuild cotton compress reported burned at loss of \$25,000.

Tex., Grandfalls.—Grandfalls Gin Co. organized; E. Miller, Pres.; John H. Boogher, V.-P.; Jas. Miller, Secy.-Treas.; John Miller, Mgr.; has equipped plant, 30 bales daily capacity. (Lately noted incptd., capital \$10,000.)

Tex., Port Lavaca.—Planters Gin Co., capital \$10,000, incptd. by J. J. Leskar, W. F. Hollamon and H. Hollamon.

Tex., Pursley.—B. G. Whittens will rebuild cotton gin reported burned at loss of \$5000.

Tex., San Augustine.—J. S. Henry will rebuild cotton gin reported burned.

Tex., Trinidad.—Trinidad Gin Co., capital \$12,500, incorporated by R. L. Flagg, T. A. Bartlett and Leo Boatwright.

DRAINAGE SYSTEMS

Ala., Lowndesboro.—Big Swamp Drainage Dist. will organize; J. Rice Scott of Sarasota and Bartow, John S. Tallard and Herbert Stanley, promoters; contemplated that Lowndes County Probate Court, Hayneville, Ala., will appoint commission to place contract for 12 or 15-mi. canal, 60 ft. bottom width, 12 ft. deep, also laterals; declaim 25,000 to 35,000 acres. (Lately noted.)

Fla., Bunnell.—Bunnell Drainage Dist. will construct 10 main canals; total length 39.83 miles; excavation 636,367 cu. yds.; work to include clearing right of way constructing road bridges, diverting dams, or levees, defactors, etc.; Drainage Supvrs. receive bids until Nov. 7; Peter Kendrick, Chief Engr., Bunnell. (See Machinery Wanted—Drainage Construction.)

Fla., Elkton.—Drainage Dist. organized with R. L. Bothwell, F. B. Meixner and J. H. Brough as Comms.; construct drainage canal 3 to 4 mi. long to Moccasin Branch; width 20 ft.; depth about 5 ft.; Mr. Root of Jacksonville is Engr.

Fla., Bunnell.—Bunnell Drainage Dist. will construct 11.5 miles drainage canals; Contract No. 1.—Water Oak Canal, length 6 miles; bottom width at head 12 ft.; bottom width at outlet 24 ft.; excavation 117,000 cu. yds.; road bridges cost \$150 each. Contract No. 2.—Water Oak Stub Canal, length 3000 ft.; bottom width 10 ft.; right of way 40 ft.; spoil bank off north side of canal; excavation 2754 cu. yds.; West Levee and Ditch—Length 12,800 ft.; bottom width 10 ft.; right of way 40 ft.; small key ditch under spoil bank graded to form levee on north side of ditch; excavation 7576 cu. yds.; East Levee and Ditch—Length 4900 ft.; bottom width 10 ft.; right of way 40 ft.; small key ditch under spoil bank and bank graded to form levee on north side of ditch; excavation 5918 cu. yds.; Junction Canal—Length 5250 ft.; bottom width 14 ft.; right of way 60 ft.; excavation 13,290 cu. yds.; Saplings Levee and Ditches—Fill estimated at 2536 cu. yds., graded on top for roads; small key ditch under bank to form levee; length 3500 ft.; material secured from ditches 10 ft. wide each, dug on each side of levee; Drainage Supvrs. receive bids until Nov. 7; Peter Kendrick, Chief Engr., Bunnell. (See Machinery Wanted—Drainage Construction.)

ELECTRIC PLANTS

Ark., Earle.—Earle Light, Water & Ice Co. increased capital from \$15,000 to \$60,000.

Fla., Calahan.—Town Council is considering construction of electric-light plant. Address Town Clerk.

Ky., Hellier.—Greenough Coal Co. of

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Uniontown, Pa., is considering construction of power plant; 45x70 ft.

Miss., Pascagoula.—International Shipbuilding Co. will build electric-light plant for shipyards and employees' residential district.

Mo., Bethany.—City voted \$4500 bonds to install oil engine in electric-light plant. Address The Mayor.

Mo., Frederickton.—City is reported to vote on purchase of electric-light plant by Missouri Public Utilities Co. of Cape Girardeau, Mo., for \$16,000.

Mo., Higginsville.—City is considering plans for installation of ornamental lighting system on Russell St. Address The Mayor.

Mo., Kansas City.—Kansas City Light & Power Co., Jos. F. Porter, Pres., 1500 Grand Ave., let all contracts for electric generating station; Sargent & Lundy, Engrs., 72 W. Adams St., Chicago, advises Manufacturers Record: We are making plans for this station; location, on bank of Missouri River in northeast section of city, 1½ mi. down river from foot of Grand Ave.; laying out station for ultimate capacity of 250,000 K. W., of which 40,000 K. W. capacity is to be installed at this time; first section of building 225x200 ft.; contracts for building foundations and superstructure placed with Foundation Company, 233 Broadway, New York, and Rookery Building, Chicago; steel ordered from the American Bridge Co., 30 Church St., New York; contracts for equipment as follows: Two 20,000 K. W. turbines, General Electric Co., Schenectady, N. Y.; 2 condensing equipments, Worthington Pump & Machinery Corp., New York; 6 boilers with 12,500 sq. ft. heating surface each, Babcock & Wilcox Co., New York; 6 underfeed stokers, 16 retorts each, Sanford Riley Stoker Co., Worcester, Mass.; 6 cast-iron low-pressure economizers, with induced draft fans, Green Fuel Economizer Co., Matteawan, N. Y. (Lately noted awarding foundation contract, ordering two 20,000 K. W. turbo-generators, etc., with Sargent & Lundy as Engrs.; previously reported to build plant costing \$3,000,000 to \$6,000,000.)

Mo., Nettleton.—Hamilton Light & Power Co., Hamilton, Mo., will furnish electric power; now has transmission line through Nettleton to Breckenridge.

Mo., Pleasant Hill.—L. K. Green & Sons of Harrisonville, Mo., are reported to build central power plant.

Mo., Versailles.—City will rebuild burned electric-light plant. Address The Mayor.

N. C., Fremont.—Town Commrs. will issue \$20,000 bonds to install electric-light plant and improve streets and sidewalks.

N. C., Pikesville.—Town Commrs. will issue bonds to install electric-light plant and improve streets.

Okla., Medicine Park.—J. Elmer Thomas of Lawton, Okla., contemplates improvements to include electric-light plant.

Okla., Miami.—City voted \$45,000 bonds to improve electric-light plant; lately noted to vote. Address The Mayor. (See Waterworks.)

S. C., Anderson.—North Anderson Promotion Co., organized by Lee G. Hollenman, A. S. Farmer and John W. Linley; purchased North Anderson electric-light system; will establish park and playgrounds.

S. C., Holly Hill.—Holly Hill Electric Service Co., organized with H. W. Pearce, Pres.; S. P. Wells, V.-P.; Lyde R. Rhame, Secy.; K. G. Carson, Treas.; will construct electric-light and ice plants.

Tenn., Jackson.—City let contract Mitchell Machine & Electric Co., Paducah, Ky., to install white way along 38 blocks, 4 iron posts to each block.

Va., Cape Charles.—Hickie Kellogg is considering plans for construction of powerhouse; 40x53 ft.; cost \$10,000.

W. Va., Triadelphia.—Town Council is considering plans for installation of electric-light system.

FLOUR, FEED AND MEAL MILLS

Ga., Tifton.—Mutual Milling Co. (E. P. Bowen and others) increased capital from \$200 to \$300; considering installation of flour mill; erected building and will install rice mill. (Noted in Sept. as inceptd. with \$2000 capital.)

Ga., Union City.—Watter Cowart will install feed and corn-grinding machinery, operated by crude-oil engine; manufacture feed, meal and grits; interested in prices on small flour mill. Lately noted. (See Machinery Wanted—Flour Mill, etc.)

Tenn., Memphis.—Allen Milling Co., capital \$5000, inceptd. by Albert M. Mass, Henry Albenberg, Sidney A. Felsenthal and others.

Tenn., Ripley.—Farmers & Merchants' Milling Co. will rebuild flour mill and grain elevator reported burned at loss of \$33,000.

W. Va., Ronceverte.—Limestone Milling Co. (R. K. Ford and others) acquired Ronceverte Milling Co. and will erect battery of concrete grain elevators. (Limestone company noted in Sept. as inceptd. with \$125,000 capital and Ronceverte company to build concrete flour mill with daily capacity of 500 bbls. at estimated cost of \$125,000.)

FOUNDRY AND MACHINE PLANTS

Md., Westport.—Machine Shop.—Chesapeake Iron Works will erect shop 49x250 ft.; reinforced concrete and steel; bidders invited to estimate include West Construction Co., American Bldg.; Consolidated Engineering Co., Calvert Bldg.; B. F. Bennett Building Co., 123 S. Howard St.; J. J. Walsh & Sons, 1533 Maryland Ave.; all of Baltimore.

Okla., Tulsa.—Brass Foundry.—Powell & Mohon, Pittsburgh, Pa., will establish brass foundry; construct 150x44 ft. smelter building; install 2 furnaces.

W. Va., Parkersburg.—Oil Well Supplies, etc.—Davis-Miller Engineering Co. (lately noted under Miscellaneous Enterprises, inceptd. with \$50,000 capital) organized with Frank L. Miller, Mgr.; undertake general engineering; build 2-story 200x56-ft. machine shop to manufacture wood steaming retorts and oil well supplies; install lathes, planers, cupolas and general machine shop equipment. (See Machinery Wanted—Machine Tools.)

W. Va., Pennsboro.—Machine Shop.—Shinnston Drilling Co. (Kerr Bros. of Shinnston and Clarksburg, W. Va.) will erect machine shop.

with Thos. Stark, Prest., Thibodaux; S. B. Forman, V.-P., Lafayette and New Orleans; J. W. Busard, Secy.-Treas., Indianapolis, Ind.

Okla., Ardmore.—Emery-Knox Drilling Co. inceptd. by J. T. Emery, Norman, Okla.; J. M. Emery and Chas. E. Knox, Haldton, Okla.; capital \$30,000.

Okla., Blackwell.—Oil Refinery.—Modern Refining Co. inceptd. by T. S. Chambers, Oklahoma City; G. M. Cassidy, Tonkawa; C. K. Dawson, Ponca City; capital \$250,000.

Okla., Blackwell.—Blackhill Oil & Gas Co. inceptd. by William M. Vickory, B. G. Welge and F. A. Smith; capital \$500,000.

Okla., Broken Arrow.—Arrow Field Oil & Gas Co., capital \$125,000, inceptd. by S. L. Johnson of Broken Arrow, J. H. Fuoss and F. X. De Voy of Brookfield, Mo.

Okla., Chelsea.—Althea Oil & Gas Co., capital \$100,000, inceptd. by J. A. Morrison and J. D. Green of Chelsea, and Eli Clayton of Tulsa, Okla.

Okla., Chickasha.—Hall-McPhail Oil Co. inceptd. by B. P. Smith, F. C. Hall and others; capital \$75,000.

Okla., Duncan.—Sandy Pig Oil & Gas Co., capital \$35,000, inceptd. by A. S. Wilson, J. H. Ledbetter and E. O. Sloan.

Okla., Enid.—Oil Refinery.—Universal Refining & Developing Co. inceptd. by S. A. Stakup, Jas. W. Steen and A. B. Hugos; capital \$10,000.

Okla., Frederick.—Abernathy Petroleum Co. inceptd. by J. R. Abernathy, Frederick; M. J. Bashore and J. F. Reed, Wichita Falls, Tex.; capital \$50,000.

Okla., Nowata.—Middlesex Oil & Gas Co., capital \$10,000, inceptd. by Chas. Fisher of

of Tulsa, B. K. Graham of Florence, Kans.; E. W. Arnold of Larned, Kans., and others.

Okla., Tulsa.—Bankers' Oil Co. inceptd. by W. E. Walker, M. Walker and C. D. Smith; capital \$50,000.

Okla., Tulsa.—Bray Oil Co., capital \$100,000, inceptd. by John B. Means and J. Q. Chambers of Tulsa and Rolla Bray of Pattonsburg, Mo.

Tex., Houston.—Petroleum Corp. of Texas, capital \$100,000, inceptd. by Charles F. Bodey, Ezra J. Morgan and O. B. McKnight.

Tex., Houston.—Oil Refinery.—Sinclair Gulf Refining Co., subsidiary of Sinclair Gulf Corporation, 120 Broadway, New York, advises Manufacturers Record: Purchased site on Houston ship canal and will start immediate construction of oil refinery; most of material purchased; refinery modern in every respect and fireproof as possible; this is all information we desire to give out at this time but will supply additional information some time in near future.

HYDRO-ELECTRIC PLANTS

N. C., Badin.—Tallahassee Power Co. (subsidiary of Aluminum Co. of America, Pittsburgh) awarded all contracts for constructing and equipping second Yadkin River dam at Yadkin Falls site, 2 mi. below Narrows dam; Jas. W. Rickey, Ch. Hydraulic Engr. Aluminum Co. of America, Pittsburgh, advises Manufacturers Record: Several months ago let contract to Hardaway Contracting Co., Columbus, Ga., to build dam and powerhouse at Yadkin Falls dam site on Yadkin River near Badin; spillway portion of dam will be 465 ft. long, comprising a trash gate and 10 sluice gates, each 33 ft. wide and 30 ft. high; also 2 small tainter gates, each 25 ft. wide and respectively 15 ft. and 10 ft. high; powerhouse will contain 3 vertical turbines mounted in concrete scroll cases; each turbine develop 10,000 H. P. when operating under 50-ft. head; turbine contract let to S. Morgan Smith Co., York, Pa.; governor contract to Allis-Chalmers Mfg. Co., Milwaukee, Wis., and generator contract to General Electric Co., Schenectady, N. Y.; structural steel in flood-gate and powerhouse furnished by McClintic Marshall Construction Co., Pittsburgh; all other contracts have been let, covering miscellaneous equipment. This development designed to maintain pond above dam at constant elevation, and when flood in river occurs flood-gates will be opened to maintain pond at normal level; combined discharge of all flood-gates allowing pond level to rise 4 ft. above normal is 250,000 second ft.; plans by Engineer Rickey. (Lately incompletely noted.)

ICE AND COLD-STORAGE PLANTS

Ala., Montgomery.—Independent Ice & Cold Storage Co., R. A. Lewis, Pres., Birmingham, Ala., will build ice and cold-storage plant; erect building 43x143 ft.; brick, reinforced concrete and steel; cost \$7500; electric power; daily capacity 50 tons ice; construction by company's force.

Ark., Marion.—Rhodes Ice Co., capital \$4000, inceptd. by John B. Martin, Elizabeth Rhodes and Wm. B. Rhodes.

Ark., Earle.—Earle Light, Water & Ice Co. increased capital from \$15,000 to \$60,000.

S. C., Holly Hill.—Holly Hill Electric Service Co., H. W. Pearce, will build ice plant. (See Electric Plants.)

IRON AND STEEL PLANTS

Ala., Gadsden.—Iron Furnace.—Alabama Co., First National Bank Bldg., Birmingham, Ala., advises Manufacturers Record: Figuring on blowing in iron furnace; plans not definite. (Lately noted.)

Tenn., Knoxville.—Rail Mill.—Economy Rail Co., capital \$15,000, inceptd. by C. G. Renegar, G. T. Brooks, W. A. Cockrum and others.

LAND DEVELOPMENTS

Ala., Birmingham.—Modern Farm & Cattle Co., capital \$40,000, inceptd. by Mrs. F. C. Whitehead, Pres.; R. B. Whitehead, V.-P. and Treas.; C. A. Whitehead, Secy.

Fla., Oneco.—Lord-Savage Co., J. H. Lord, Pres., Sarasota, Fla., organized; advises Manufacturers Record: Proceeding with development of Oneco Park; 1000 acres; cost of improvements, including road building and draining, \$25,000; construction by company force; T. Tuttle, Engr., Sarasota, Fla. (Lately noted inceptd., capital \$10,000.)

Md., Aberdeen.—War Department, Washington, D. C., will develop 35,000 acres for ordnance proving ground; \$7,000,000 appropriation for purchasing and improving land;

THE OFFICIAL PROPOSAL ADVERTISEMENTS

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GAS AND OIL ENTERPRISES

Ala., Wilmer.—Pittsburgh & Gulf Oil Co., capital \$500,000, inceptd. by W. J. Clearhue, Pres.; H. W. Taylor, V.-P.; G. W. Duffus, Secy.-Treas.; all of Pittsburgh, Pa.

Ky., Ashland.—Devil's Creek Oil & Gas Co., capital \$30,000, inceptd. by F. H. Laird, J. E. King and H. R. Dysard.

Ky., Louisville.—Jefferson Oil Corp. of Kentucky inceptd. by M. B. Cooley, Richard V. Wood and J. Stoddard Johnson.

Ky., Scottsville.—Dome Oil Co., capital \$100,000, inceptd. by J. D. Read, G. M. Whitson, Verner Tolmie and H. E. Dixon.

Ky., Winchester.—Mayo Oil Co., Simpson Bldg., inceptd. with \$100,000 capital; branch office in Fayette National Bank, Lexington; W. S. Dudley, Pres., Carlisle, Ky.; J. F. Pennington, V.-P., Ford, Ky.; Younger Alexander, Secy.-Treas., Lexington; develop oil property in Lee, Powell, Estill, Rockcastle and other counties.

La., Alexandria.—H. M. Byllesby of Chicago, E. W. Clark of Philadelphia, and W. J. Rodgers of Huntington, W. Va., leased Catahoula Lake from State; drill for oil and pipe to Alexandria and Camp Beauregard.

La., Shreveport.—Louisiana Consolidated Oil & Refining Corp., First National Bank, J. C. Ellis, Shreveport, Pres., advises Manufacturers Record: Will build refinery; open piping bldg., etc., Nov. 1, and bids for construction of refinery Jan. 1; gas line at present 6 mi. 4-in. pipe; now has 29 producing oil wells and 2 gas wells. Lately noted chartered, capital \$1,500,000. (See Machinery Wanted—Boilers; Pipe.)

La., Monroe.—Oil Pipe Line.—Southern Carbon Co. applied for franchise to construct 8-in. gas pipe line from field to Monroe.

La., Thibodaux.—Southern States Oil & Gas Co. of Indiana, capital \$500,000, organized

Nowata, C. L. Markham of Basin, Wyo., and I. J. Russell of Cripple Creek, Col.

Okla., Oklahoma City.—Otoe Petroleum Co., capital \$250,000, inceptd. by Warren K. Snyder of Oklahoma City, H. L. Greenleaf and Tom Testerman of Morrison, Okla.

Okla., Oklahoma City.—First Choice Oil & Gas Co. incorporated by George M. Davis, A. D. Johnson and Roy E. Ramsey; capital \$50,000.

Okla., Oklahoma City.—Oklahoma Consolidated Oil Co. chartered with \$5,000,000 capital by Clement M. Egner of Elkton, Md., and others.

Okla., Oklahoma City.—Gas Station.—J. W. Lucas will erect gas station; stucco; cost \$2500.

Okla., Oklahoma City.—Minomac Oil Co. inceptd. by H. K. Moyer, J. F. McCullough and E. E. Goodwin; capital \$50,000.

Okla., Oklahoma City.—Production Oil Co. organized; M. F. Meyer, Pres., Norman, Okla.; Carroll S. Moore, V.-P.; Wm. J. Armstrong, Secy.-Treas.; both of Oklahoma City; drill for oil in Arkansas River bed; has contracted for 3 wells. (Lately noted inceptd. with \$60,000 capital.)

Okla., Poteau.—Choctaw-Chickasaw Oil & Gas Co., capital \$300,000, inceptd. by J. E. Davis of Poteau, G. C. Tobias and Geo. E. Wintz of Kansas City, Mo.

Okla., Sapulpa.—Sapulpa Pipe & Supply Co., capital \$5000, inceptd. by Isaac Plost, Louis Plost and Geo. Plost.

Okla., Shawnee.—Wamego Oil & Gas Co. inceptd. by L. A. Brown, Wallace Estill and C. W. Hodges; capital \$11,000.

Okla., Tulsa.—Kiskaddon Bros., capital \$4000, inceptd. by W. W. Kiskaddon, Charles J. Collett and C. H. Priddy.

Okla., Tulsa.—Trapshooters' Oil Co. chartered with \$100,000 capital by V. H. Hughes

Col. L. H. Ruggles, Chief Ordnance Dept., in immediate charge of construction. Work will include building piers and wharves, dredging waterways, installing sewerage system, constructing water-works, planting of huge concrete foundations for high-powered guns, laying of streets and roads, building of railroads, bridges and conduits, construction of homes, quarters for officers and employes, installation of telephones and telegraph, etc.; Maryland Dredging & Contracting Co., Fidelity Bldg., has general construction contract; P. Flanagan & Sons, 2 E. Lexington St., Baltimore, have contract to construct sewer system, sidewalks, roads, etc.; Morrow Bros., 1201 Fidelity Bldg., Baltimore, have contract to erect various buildings; railroad companies will build sidings and extensions.

Md., Baltimore.—Board of Estimates plans expending \$40,000 for improvements in Mount Vernon Square; plans by Thos. Hastings of New York.

Mo., Kansas City.—Hugh Thompson Broom Corn Co. increased capital from \$25,000 to \$50,000.

Okla., Tulsa.—People's Progression Improvement Co. inceptd. by O. W. Gurley, Ed G. Howard and H. C. Pack; capital, \$10,000.

Okla., Tulsa.—Western Improvement Co. inceptd. by J. K. Putnam, J. W. Shields and Max Wehnert; capital \$24,000.

S. C., Anderson.—North Anderson Promotion Co. organized by Lee G. Holleman, A. S. Farmer and John W. Linley; will establish park and playgrounds. (See Electric Plants.)

Tex., San Antonio.—Camp Travis Land Co., P. F. Loring, Pres., 805 Gunter Bldg., will expend \$50,000 to develop 20 acres as amusement park; has let contracts; Engr., McKenzie Construction Co., Bedell Bldg., San Antonio. (Lately noted inceptd.)

Va., Charlottesville.—National Soil Improvement Co., capital \$50,000, inceptd.; J. T. Conkey, Pres.; W. R. Shepherd, Secy.

Va., Norfolk.—Wilson, Harcombe & Co. inceptd.; E. J. R. Wigg, Pres.; Geo. R. Wilson, Gen. Mgr.; Jas. Harcombe, Treas.

Va., Lynchburg.—Willford Farm, capital \$15,000, inceptd.; R. C. Blackford, Pres.; T. J. Williams, V.-P.; O. T. De Witt, Secy. Treas.

Va., Roanoke.—Buffalo Ridge Development Co., capital \$25,000, inceptd.; H. Earl Graves, Pres.; C. E. Cosby, Secy.

LUMBER MANUFACTURING

Ark., Artex.—Henry Shreve Lumber Co. organized; M. J. Dorsey, Pres., Texarkana, Ark.; will develop 20,000 acres Miller County timber land owned by Dorsey Land & Lumber Co.; build mill at Artex (new city) on Cotton Belt Ry., 14 miles east of Texarkana; begun construction of mill, storehouses, office, dwellings, etc.; construct train railway through timber.

Ark., Chicot County.—Harwell Lumber Co., capital \$100,000, inceptd. by H. F. Harwell, E. G. Harwell, H. T. Bruce and others, all of Memphis, Tenn.; purchased 2700 acres oak, gum and ash timber land in Chicot County; erect sawmill with daily capacity 30,000 ft.

Ark., Faith.—Herr & Helvie Lumber Co. will rebuild sawmill burned at loss of \$15,000.

Ark., Velle.—Moline Lumber Co. will rebuild sawmill burned at loss of \$20,000.

Fla., Jacksonville.—Coachman Co., capital \$500,000, inceptd.; W. F. Coachman, Pres.; W. F. Coachman, Jr., V.-P.; E. G. Thenholm, Secy.; Lee Taylor, Treas.

La., Athens.—Mary Ann Lumber Co., B. L. Van Cleave, Pres., St. Louis, Mo., will build sawmill with daily capacity of 25,000 ft.

La., Lake Charles.—Woodring Lumber Co. increased capital from \$30,000 to \$75,000.

N. C., Brevard.—Toxaway Lumber Co., W. J. Owen, Pres., will extend flume line; probably extend main line at upper end 4 mi. further into mountains with about 7 mi. of branch lines.

Okla., Blackwell.—Twyman Sawmill Co. inceptd.; G. O. Twyman and Margaret Boone, both of Blackwell, and E. D. Twyman, Independence, Mo.; capital \$25,000.

Tenn., Dyersburg.—Mengel Box Co. of Louisville, Ky., is reported to have purchased timber on 5000-acre tract.

Tex., Fort Worth.—Wm. Cameron & Co., Waco, Tex., and 3421 Hemphill St., Fort Worth, will rebuild sheds; 9000 sq. ft.; cost \$750. (Lumber-yard buildings lately noted burned; loss \$8000.)

W. Va., Excelsior.—Bull Creek Hardwood Lumber Co., capital \$20,000, inceptd. by J. A. Huddleston, F. A. Weaver, A. W. Dameron and others.

METAL-WORKING PLANTS

Ky., Louisville.—Signs.—Peerless Sign Co., capital \$40,000, inceptd. by Calvin F. Thomas, Geo. C. Murphy and A. P. Dodd.

Md., Baltimore.—Porcelain Enamels.—Porcelain Enamel & Mfg. Co., O'Donnell and Eighth Sts., will enlarge plant at Bayard and Ridgeley Sts.; erect 1-story building, 219.5x120 ft. (Lately noted.)

Mo., Kansas City.—Roofing, etc.—Milwaukee (Wis.) Corrugating Co., 311 W. Eighth St., will build plant to manufacture sheet-metal roofing, siding, cornices, ceilings, tanks, etc.; construct 2-story factory building costing \$80,000.

MINING

Ala., Birmingham.—Iron.—Birmingham Coal & Iron Co. chartered with \$1,000,000 capital by Oscar R. Hundley and others.

Ala., Birmingham.—Iron.—Inland Coal & Iron Co. chartered with \$1,000,000 capital by Oscar R. Hundley and others.

Ala., Birmingham.—Iron.—Ellsworth Ore Co., capital \$3000, inceptd.; J. H. Hillman, Jr., Pres.; D. C. Seals, V.-P.; E. L. Smith, Secy.-Treas.

Ga., Atlanta.—Flat Creek Mining Co., capital \$25,000, inceptd. by W. K. Durham, J. G. Oglesby, Jr., and P. J. Talley.

Ga., Atlanta.—Minerals.—Atlantic Minerals Corp., capital \$25,000, chartered by Otto Couch, L. B. Field and F. W. Yarbrough.

Ky., Lexington.—Rock Asphalt.—P. W. Grinstead, Louisville, Ky., and others secured rights to mine rock asphalt on 42,636 acres in Grayson, Hardin and Hart counties; will operate old quarries equipped to produce 20,000 tons rock asphalt annually and install additional machinery costing \$250,000.

Ky., Nicholasville.—Barytes, etc.—Henry Watson and Lewis Gabriel of New York purchased Central Pigment Co.'s barytes plant; will enlarge and install additional machinery; at present will specialize in barytes and fluorspar, but later will handle other products; John A. Weinman retained as Secy. and Gen. Mgr. and will supervise improvements.

Ky., Versailles.—Fluorspar.—E. H. Fluorspar Co., capital \$12,000, inceptd. by J. H. Ethington, W. S. Hinter and A. C. Hunter.

Md., Elkton.—Mariposa Mining Co. chartered with \$300,000 capital by Clement M. Egner and others.

Mo., Carl Junction.—Lead and Zinc.—C. E. Bowman, J. A. Walker, Anson Seaton, John Farris and others of Shamrock, Okla., organized company to develop 60 acres lead and zinc land.

Mo., Joplin.—Lead and Zinc.—Yellowstone Mining Co., capital \$50,000, inceptd. by I. P. Jones, Edward F. Gottel, Geo. De Bughen and others.

Okla., Ardmore.—Lead and Zinc.—Gypsy Lead & Zinc Co. inceptd. by Charles Von Weise, W. J. Lane and J. C. Mulkey; capital \$100,000.

Okla., Miami.—Lead and Zinc.—Interstate Mining Co. will build mill in Four Mile Creek territory.

Okla., Miami.—Lead and Zinc.—Buck Shot Mining Co. organized; J. A. Frates, Pres.; W. Matthews, V.-P.; J. H. Grant, Secy.; H. B. Graulee, Box 205, Asst. Secy., Treas. and Mgr.; develop 200 acres; capacity not yet decided. Lately noted inceptd., capital \$150,000. (See Machinery Wanted—Mining Machinery.)

Okla., Miami.—Lead and Zinc.—Turner Mining Co., capital \$100,000, inceptd. by T. G. Turner of Miami, J. F. Earnhart of Holdenville, Okla., and S. D. Powell of Seminole, Okla.

Okla., Miami.—Lead and Zinc.—McCurdy Mining Co., capital \$150,000, inceptd. by T. O. Turner of Miami, W. C. McCurdy and H. E. Snodgrass of Purcell, Okla.

Okla., Miami.—Lead and Zinc.—Portland Lead & Zinc Co. inceptd. by Edward Nix, Miami; B. T. Halner and George A. Henshaw, Oklahoma City; capital \$200,000.

Okla., Miami.—Lead and Zinc.—Mac-C-Mining Co. inceptd. by C. D. McClellan and Ed. Foster, both of Miami, and Joseph Nelson, Norman, Okla.; capital \$2500.

Okla., Oklahoma City.—Lead and Zinc.—Sterling Lead & Zinc Co. inceptd. by L. D. Right, W. H. Inlow and George Struble; capital \$25,000.

Okla., Oklahoma City.—Lead and Zinc.—Texas Mining Co. inceptd. by H. T. Douglas, Shawnee; H. H. Holman, Wetumka, Okla., and T. B. Turner, Miami, Okla.; capital \$100,000.

Okla., Oklahoma City.—Lead and Zinc.—Centerfield Lead & Zinc Co. inceptd. by J. O. Mitchell, O. M. May and George S. Rusco; capital \$100,000.

Okla., Picher.—Lead and Zinc.—L. B. Bell, A. J. Lopp, Louie Cantrell and others organized company with \$30,000 capital to develop mining lease 3 mi. from Picher.

Okla., Tar River.—Lead and Zinc.—Interstate Mining Co. will build concentrating plant.

Okla., Tulsa.—Sand.—O. K. Sand Co. incorporated by J. M. Chandler, Lee Price and W. A. Moore; capital \$30,000.

Okla., Tulsa.—Stone.—Industrial Stone Co. inceptd. by C. M. Pritchard, H. W. Hollingsworth and B. W. Grant; capital \$25,000.

S. C., Greenwood.—Marble and Granite.—Owen Bros. Marble & Granite Co., capital \$10,000, inceptd. by W. C. Owen and L. P. Owen.

Va., Indian Rock.—Stone.—Liberty Lime & Stone Co. (under Clifton Forge, lately noted inceptd. with \$150,000 capital) organized; John W. Stull, Pres., Lignite, Va.; A. C. Ford, V.-P., Clifton Forge, Va.; E. Dillon, Secy.-Treas., Indian Rock; develop 306 acres; quarry output to be 1000 tons daily; will install crushing, grinding, screening and drilling machinery, electric drive, steam shovel and compressor. (See Machinery Wanted—Quarrying Equipment.)

Va., Tipton.—Manganese.—Greener Bros. will develop manganese property in Tazewell County.

MISCELLANEOUS CONSTRUCTION

Ark., Conway.—Heating Plant.—Hendrix College will rebuild burned heating plant; let contract for building to R. W. Jenkins, for plumbing to Pettit-Galloway Co. and for boiler repairing to Bemberg & Sons; all of Little Rock.

Ga., Fort Screven.—Wharf Extension.—Constructing Quartermaster, U. S. A., will build wharf extension; bids until Oct. 20. (See Machinery Wanted—Wharf Construction.)

La., Vidalia.—Levee.—Commrs. Fifth Louisiana Levee Dist. will construct following levee work in Concordia Parish, Mississippi River, right bank; Saughy Levee, new levee, contents 40,000 cu. yds.; Deer Park Levee, cutting down and rebuilding embankment, 8000 cu. yds. in cut and 8300 in fill; College Point, contents 175,000 cu. yds., St. James Parish, Mississippi River, left bank; bids at office State Engrs., New Orleans, until Oct. 25. (See Machinery Wanted—Levee Construction.)

Md., Aberdeen.—Piers, etc.—War Department, Washington, D. C., will construct piers, wharves and concrete foundations for high-powered guns at ordnance proving ground. (See Land Development.)

Mo., Kansas City.—Grading.—Riverside Storage Co., 303 Ridge Bldg., will remove 200,000 sq. yds. dirt, providing building levels for warehouses.

Okla., Randlett.—School Board, G. Eschler, Clerk, will construct concrete storm cave on school lot in Union Hill Dist.; invites bids.

S. C., Charleston.—Wharf and Trestle.—Chief Bureau of Yards & Docks, Navy Dept., Washington, D. C., opened bids to construct wharf and trestle on east side of Cooper River, opposite navy-yard; Simons-Mayrant Co., 18 Broad St., Charleston, is lowest bidder at \$28,773.

Tenn., Whittle Springs.—Swimming Pool.—Whittle Springs Co. organized with J. W. Williams, Pres., Knoxville; will construct swimming pool to be equipped for winter and summer use; filter system; accommodate 500 persons. (See Hotels.)

MISCELLANEOUS ENTERPRISES

Ala., Anniston.—Garbage Incinerator.—City will install garbage incinerator; let contract Nye Odorless Crematory Co. of Macon, Ga.

Ala., Dothan.—Potato Curing.—T. A. Ward, J. R. Maircloth, G. S. Jackson and others are interested in plans to establish potato-curing plant.

Ala., Mobile.—Shipping.—H. M. Lindsey Shipping Co., capital \$20,000, organized with H. M. Lindsey, Pres.; Wm. Buck Taylor, V.-P.; R. W. Byrne, Secy.-Treas.

Ark., Little Rock.—Shingle Cresoating.—Arkansas Shingle Cresoating Co., 215 W. Second St., organized with C. A. Roth, Pres.; A. C. Shipp, V.-P. and Treas.; J. G. Paty, Secy.-Mgr.; will cresoate gum and pine shingles; installing additional machinery in North Little Rock plant; daily capacity 150,000 shingles. (Lately noted inceptd. with \$13,000 capital.)

Fla., Fort Pierce.—Printing.—News Printing Co. organized; R. H. Glenn, Pres.-Mgr.; Edgar Lewis, V.-P.; Elwyn Thomas, Secy.; has equipped plant; printing and publishing. (Lately noted inceptd., capital \$15,000.)

Fla., Jacksonville.—Cattle.—De Soto Cattle Co., capital \$100,000, inceptd.; W. F. Coachman, Pres.; W. F. Coachman, Jr., V.-P.; E. G. Trenholm, Secy.; Lee Taylor, Treas.

Fla., Miami.—Contracting.—Carmichael-McCalley Co., capital \$10,000, inceptd.; W. H. Carmichael, Pres.; R. B. McCalley, V.-P. and Gen. Mgr.; C. A. Sawyer, Secy.-Treas.

Ga., Lithonia.—Printing.—Southern Printing & Novelty Co. will erect office building, 30x100 ft., to be erected by M. M. George.

Ky., Ashland.—Ashland Taxicab Co., capital \$3000, inceptd. by J. A. Finley, A. A. Finley and J. W. Hall.

Ky., Hickman.—Grain Elevator.—Nashville, Chattanooga & St. Louis Ry., H. McDonald, Chief Engr., Nashville, Tenn., will build grain elevator on river front; install machinery for unloading barges.

Ky., Louisville.—Glove Cleaning.—Louisville Glove Cleaning Co., 100 E. Chestnut St., organized; M. R. Fritts, Pres.; R. C. Waggener, V.-P.; J. S. Norman, Secy.-Mgr.; has building; will install machinery. Lately noted inceptd., capital \$6000. (See Machinery Wanted—Cleaning Machinery.)

Ky., Mayfield.—Construction.—Kentucky Construction & Improvement Co., capital \$300,000, inceptd. by Ed. Gardner, W. E. Shelton and others.

La., La Fayette.—Laundry.—La Fayette Steam Laundry will rebuild plant reported burned at loss of \$3000.

Mo., Kansas City.—Iron and Metal.—J. H. Levin Iron & Metal Co., capital \$10,000, inceptd. by J. H. Levin, Geo. Ringel and Joe Shafter.

Mo., Kansas City.—Stock Yards.—Kansas City Stock Yards Co., Geo. R. Collett, Gen. Mgr., plans to rebuild portion (\$175,000 damage) of stockyards lately noted burned; 25 to 30 acres of pens; construct temporary pens of wood; permanent pens to be concrete.

Mo., Norborne.—Grain Elevator.—Farmers' Elevator Co., capital \$10,000, inceptd.

S. C., Barnwell.—Publishing.—New Sentinel Publishing Co., capital \$4000, inceptd. by John K. Snell of Barnwell, J. W. Browning and Herman Brown of Blackville, S. C., and others.

S. C., Greenville.—Transfer.—Highland Transfer Co., capital \$1000, inceptd. by N. H. Harris, Lillian R. Harris and J. U. Rise.

Tenn., Clarksville.—Ship Transportation.—Clarksville Packet Co., capital \$25,000, inceptd. by Julian N. Gracey, F. N. Smith, Jos. O. Bolling and others.

Tenn., Dyersburg.—Grain Elevator.—Tennessee Grain Co., capital \$70,000, inceptd. by N. W. Calcutt, E. Rice, S. G. Latta and others.

Tenn., Ripley.—Grain Elevator.—Farmers & Merchants' Milling Co. will rebuild grain elevator and flour mill reported burned at loss of \$33,000.

Tenn., Whittle Springs.—Water Bottling.—Whittle Springs Co. organized; J. W. Williams, Pres.; O. F. Whittle and Dover Williams, V.-Ps.; R. H. Whittle, Secy.-Treas.; all of Knoxville; erect water-bottling plant. (See Hotels.)

Tex., Houston.—Paving Contracting.—Kinney Paving Co., capital \$30,000, inceptd. by W. A. Wood, Gus H. Moore, W. F. Wagfield and W. E. Clancy.

Tex., Port Arthur.—Laundry and Dry Cleaning.—Port Arthur Laundry Co., Albert Shepherd, Mgr., 4th St., is having plans prepared by F. W. Steinman of Beaumont, Tex., for laundry and dry-cleaning plant; fireproof; brick; cost \$15,000; purchased machinery; site 100x140 ft. (Lately noted organized with \$40,000 capital.)

W. Va., Roncoveite.—Grain Elevators.—Limestone Milling Co. (R. K. Ford and others) will build battery of concrete grain elevators. (See Flour, Feed and Meal Mills.)

MISCELLANEOUS FACTORIES

Ala., Albany.—Brooms.—Albany Broom Works increased capital from \$1250 to \$2500; double capacity of plant.

Ala., Mobile.—Creamery.—Mobile Creamery Co. organized; J. Vawter Rowan, Pres.; J. W. Hutchings, V.-P. and Mgr.; L. C. Irvine, Secy.; succeeds Tri-Counties Creamery; will increase facilities. (Lately noted inceptd. with \$25,000 capital.)

Ala., Sheffield.—Nitrate, etc.—War Department, Washington, D. C., will build \$3,000,000 experimental Government nitrate plant.

official statement is: Secretary of War announces President has approved location at Sheffield of initial ammonia and nitric acid plants to be constructed with portion of \$25,000,000 appropriated for nitrate supply by National Defense act; Sheffield is on Tennessee River below Muscle Shoals, near phosphate beds of central Tennessee; on site selected are several substantial steel buildings which can be utilized; these initial plants proposed with view to determining best and most economical process of nitrogen fixation; enough land being acquired to permit of large expansion; these plants to produce material used in manufacture of munitions; after the war any excess of product over munitions requirements may be sold for fertilizer.

Ark., Little Rock—Overalls, etc.—Miller Mfg. Co. of Fort Worth, Tex., will establish branch plant at 1124 E. Markham St. to manufacture overalls, corduroy trousers, etc.

Ark., Pine Bluff—Bedding.—Turner Bedding Factory, H. R. Turner, Pres., Martin Ave. and State St., will increase manufacturing facilities; bought 110x30 ft. mill-construction building; ordered excelsior machinery and other equipment costing \$35,000; recently purchased 34x30 ft. plant, to which will remove present factory; manufacture excelsior grasses, wood wool, mattresses, etc.

Fla., Tampa—Bottling.—Tampa Chero-Cola Bottling Co., capital \$10,000, incptd.; C. C. Anthony, Pres.; Geo. W. McKay, V.P.; W. E. Sawyer, Secy.-Treas.

Ga., Savannah—Burial Supplies.—Savannah Burial Supply Co. incptd. with \$100,000 capital by F. F. Goddard, R. M. Garbutt, W. O. Donovan and G. A. Garbutt.

Ky., Hazard—Universal Leader Co., capital \$20,000, incptd. by N. J. Urquhart, R. R. Rughelmer and W. H. Bowling.

Ky., Louisville—Cereals.—Louisville Industrial Foundation arranged with Peoria (Ill.) company to establish cereal mill; plans to erect buildings costing \$110,000.

Ky., Maytown—Carbon Black.—Liberty Carbon Co., capital \$100,000, incptd. by Jos. A. Wetherel, W. R. Fowkes, S. J. McConnell and others, all of Clarksburg, W. Va.

La., Monroe—Carbon.—Alton Brown of Pittsburgh, Pa., and others, will build \$200,000 carbon plant; purchased gas and mineral rights on 700 acres land in Ouachita Parish.

Md., Baltimore—Bottle Stoppers.—Crown Cork & Seal Co., 1511 Guilford Ave., will improve plant buildings at Federal and Lathrop Sts.; let contract Geo. B. Monmonier, 1711 McCulloh St., Baltimore.

Mo., St. Louis—Food Products.—Superior Products Co., capital \$5000, incptd. by Sam and Gus Baumgarten, F. A. Barret and Frank H. Stecken.

Mo., St. Louis—Electrical Fixtures.—St. Louis Electric Works increased capital from \$20,000 to \$100,000.

Okla., Lawton—Ice Cream.—Lawton Ice Cream Co. will rebuild plant.

S. C., Greenville—Specialties.—United States Specialty Co., capital \$3000, incptd.; J. S. Jacobs, Pres.; L. E. Anderson, V.P.; W. C. Humphries, Secy.-Treas.

Tenn., Memphis—Chemicals.—Superior Chemical Co. incptd. with \$5000 capital by Ben. J. Perkins, J. K. Doris, Jos. T. Green and others.

Va., Hampton—Glass Bottles.—R. T. Lipscomb, P. O. Box 501, will organize \$250,000 company to establish plant for manufacturing machine-made bottles and another for manufacturing hand-blown bottles.

Va., Norfolk—Ice Cream, etc.—Frozenpure Corp. of Virginia organized with Henry G. Barbee, Pres.; R. W. Bazemore, V.P.; Shelton N. Woodard, Secy.; install ice-cream manufacturing machinery, cost within \$6000; daily capacity 1000 gals. frozen products. (Lately reported.)

Va., Norfolk—Bottling.—Coca-Cola Bottling Works will erect addition to bottling plant; brick; 2 stories; cost \$4500; Bright & King, Contrs., Norfolk.

W. Va., Charleston—Jars.—Eureka Jar Co., capital \$25,000, incptd. by H. A. Lightner, W. G. Conley, Clyde B. Johnson and others.

W. Va., Charleston—Electric Fixtures.—H. & S. Electric Co., capital \$50,000, incptd. by H. R. Stapp, Howard W. Linard and others.

W. Va., Dunmore—Window Shades.—Dunmore Shade Hanger Co., capital \$3000, incptd. by F. W. Collins, W. A. Noel, W. L. Nottingham and others.

MOTOR CARS, GARAGES, TIRES, ETC.

Ala., Gadsden—Garage.—Kyle Real Estate & Building Co., R. B. Kyle, Pres., will erect 50x125-ft. garage; brick, with concrete floors

and gravel roof; construction by day labor; no machinery.

Ala., Montgomery—Garage.—Robert D. Maxwell Co. of Birmingham will erect garage; 65x150 ft.; cost \$11,000; R. J. Parrish, Contr.; Okel & Cooper, Archts.; both of Montgomery.

Ala., Montgomery—Garage.—Norman Buick Co., 307 Moulton St., will build garage.

Ark., Malvern—Garage.—Malvern Hardware Co. is having plans prepared by G. R. Mann for garage; 1 story; brick; 50x150 ft.; cost \$10,000.

Ark., Texarkana—Garage.—Sanders Bros. Co. will occupy portion of garage and store building to be erected by Eugene Sanders; structure will be brick; 36x100 ft.; concrete floor; H. A. Adams, Contr., Texarkana.

Ark., Tuckerman—Garage.—Tuckerman Garage Co., capital \$5000, incptd. by Kenneth K. Kimberlin, Earl V. Holt and Chas. Rye.

D. C., Washington—Garage.—South Capitol Garage, 301 C St. N. W., J. J. Kennelly, Mgr., occupies garage for which remodeling contract was lately noted let to Wm. Serby Co., 711 Thirteenth St.; second-floor addition 75x85 ft.; install electric elevator; garage capacity 130 cars.

Fla., Fort Pierce—Garage.—Gulf Refining Co. will not erect lately noted garage; was incorrectly reported.

Ga., Atlanta—Automobiles.—Southern-Nash Motor Co., capital \$150,000, incptd. by C. R. Gleaton, Guy Hanson and M. G. Porter of Atlanta, and R. H. Losey of Indianapolis, Ind.

Md., Baltimore—Garage.—Jos. C. Smith of A. 3519 Greenmount Ave., will erect public garage at 3427 Greenmount Ave.; 80x150 ft.

Miss., Jackson—Garage, etc.—Mrs. W. J. Croom will rebuild automobile garage and office building on East Capitol St.; erect 50x75-ft. brick building, with composition roof; concrete floor, first story; frame, second.

Mo., Kansas City—Beggs Motor Car Co. acquired Beggs Wagon Co.; will remodel plant; manufacture 6-cylinder standardized motor cars.

Okla., Bartlesville—Garage.—Quapaw Gas Co. will rebuild garage reported burned at loss of \$100,000.

Okla., Comanche—Garage.—Houston Auto Co. contemplates erecting garage.

Okla., Muskogee—Garage.—Harry Kitto will establish garage; occupy 107x104-ft. building to be erected by V. N. Sayer

Okla., Oklahoma City—Garage.—Gross Construction Co. will erect garage; 3 stories; brick and concrete; cost \$40,000.

Okla., Oklahoma City—Garage.—Cabell & Price will erect garage; 3 stories; brick and concrete; cost \$45,000.

Okla., Oklahoma City—Garage.—G. W. Barnett will erect garage; 2 stories; frame; cost \$6000.

Okla., Oklahoma City—Automobiles.—G. M. Head Motor Co. incptd. by G. M. Head, C. M. Love and T. H. Clark; capital \$100,000.

Okla., Oklahoma City—Automobiles.—Auto Clearing House of Oklahoma incptd. by William R. Jones, J. D. Coles and A. F. Decker; capital \$100,000.

Okla., Oklahoma City—Garage.—McClelland-Gentry Motor Co. organized; F. J. Gentry, Pres.; M. J. Gentry, V.P.; J. L. McClelland, Secy.-Mgr.; erect \$60,000 fireproof construction garage; Campbell & Price, Contractors; Layton & Smith, Archts., both of Oklahoma City. (Lately noted.)

Okla., Pauls Valley—Garage.—Valley Motor Co. will erect addition; brick.

Okla., Ringling—Vulcanizing Plant.—J. W. Bauman of Bauman & Bruton will install steam vulcanizing plant in Fourth Street garage.

Okla., Sayre—Garage.—W. J. McNery plans to erect addition to garage.

Tex., Dallas—Automobile Salesrooms and Garage.—Geo. W. Loudermilk, 1337 Main St., will add new front and interior to automobile salesroom, 1331 Main St.; cost \$1500; also new front and interior to garage and storerooms at 2016 Main St., cost \$2000; brick, cement and steel construction; W. B. Jensen, Contr.

Tex., Fort Worth—Automobiles.—Packard Auto Rent Co., capital \$25,000, incptd. by J. N. Tholl, T. A. Pitman, J. K. Bower and T. Bower.

Va., Kenbridge—Automobiles.—Lunenburg Motor Co. organized; V. C. Love, Pres.; J. T. Inge, V.P.; J. R. Etheridge, Secy.-Mgr.; has building and ordered machinery; automobile repairs and sales. (Lately noted incptd., capital \$15,000.)

Va., Staunton—Automobiles.—Staunton Motor Co., capital \$25,000, incptd.; J. N. Garber, Pres., Harrisonburg, Va.; C. A. Crowell, Secy., Staunton.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Tex., Temple—Gulf, Colorado & Santa Fe Ry., F. Merritt, Chief Engr., Galveston, Tex., will expend \$150,000 for improvements to include additional brick machine and boiler shops, freight depot, transfer wharf and freight house.

ROAD AND STREET WORK

Ala., Brewton—Escambia County will construct 9 mi. Forest Highway, being part of State Trunk Rd. No. 12, between Brewton and Andalusia; 30 acres clearing and grubbing; 44,182 cu. yds. borrow; 1050 lin. ft. pipe; 50.7 cu. yds. concrete; 11,500 cu. yds. sand clay; County Commrs. receive bids until Nov. 19; W. S. Keller, State Highway Engr., Montgomery. (See Machinery Wanted—Road Construction.)

Ala., Wetmore—State Highway Department, J. B. Converse, Asst. State Highway Engr., Montgomery, let contract at \$7140 to construct about 4 mi. road, portion of State Trunk Road No. 19, between Rock Mills and Georgia State line. (Noted in September as inviting bids.)

Ark., Little Rock—Pulaski County, Perkins Township, will construct 7 mi. of roadway; \$25,000 to be available. Address County Commrs.

Ark., Little Rock—Comms. Street Improvement Dist. No. 261, East Sixth St. (H. E. Harrington, Frank B. Gregg and J. V. Johnson), let contract E. F. Wilcox Contracting Co., Kansas City, Mo., \$79,166 for street paving, about 30 blocks, including drainage.

Ark., Little Rock—Pulaski County, Road Dist. No. 9, will construct 7 mi. of roadway in vicinity of Woodson; includes earthwork to build 22-ft. roadbed, corrugated culverts and wooden pile bridges; Comms., Albert Ziegler, Secy., receive bids until Oct. 29; Lund & Hill, Engrs., 527 Southern Trust Bldg., Little Rock. (See Machinery Wanted—Road Construction.)

Ark., Magnolia—Columbia County Commissioners have plans by State Highway Com., Little Rock, for road from Magnolia to Ouachita County line; length 13 mi.; cost \$68,987.

Ark., Van Buren—Crawford County Commissioners have plans by State Highway Com., Little Rock, for 32-mi. macadam road from Van Buren to Washington county line; estimated cost \$110,000.

Fla., Key West—Monroe County, Cape Sable Dist., voted on \$60,000 bonds to construct 22-mi. road to connect with Ingraham Highway in Dade County.

Fla., Perry—City, D. F. Blanton, Pres. City Council, in charge, will expend \$75,000 on street improvements; contemplates asphalt construction with macadam base; date opening bids not set, probably about Dec. 1.

Fla., Pensacola—Navy Department, Washington, D. C., let contract H. Monk, Pensacola, at \$17,800 to pave road between aeronautic station and army posts, about 1 mi. (See Airplane Plants, Stations, etc.)

Fla., Tallahassee—Leon County Commrs. let contract to W. H. Thomas, Monticello, Fla., for road improvements to include sand-clay surface, corrugated iron pipes and wooden bridges; expend \$6000; D. E. Reed, Engr., Tallahassee, lately noted inviting bids. (See Machinery Wanted—Pile Driver.)

Ga., Fort Oglethorpe—War Dept., Col. Edw. S. Walton, Constr. Quartermaster, will construct concrete highway from Oglethorpe to Rossville; 6 mi. long; 24 ft. wide; cost \$150,000.

La., Crowley—City, W. M. Egan, Mayor, let contract to Healy Construction Co., Crowley, to construct gravel pavement with curb and gutters; portion of construction involving \$30,000; Harry W. Bell, Engr., New Orleans. (Lately noted.)

Md., Aberdeen—War Department, Washington, D. C., will construct sidewalks, roads, etc., for ordnance proving ground; P. Flanagan & Sons, 2 E. Lexington St., Baltimore, have contract. (See Land Development.)

Md., Emmitsburg—State and town let contract Potomac Engineering & Contracting Co., 708-09 Law Bldg., Baltimore, to pave Frederick, Gettysburg and other streets; cost \$8000 to \$10,000, to be paid jointly by town and State; concrete roadway, concrete curb and gutter; is extension of contract of March, 1917.

Miss., Coffeeville—Yalobusha County will construct 15 mi. of roads costing about \$20,000; County Supvrs. receive bids until Nov. 5; bids for earth and bridge work entire, or separate bids for each; Johnson & Johnson, Engrs., Randolph Bldg., Memphis, Tenn.; L. T. Wisdom, Chancery Clerk. (See Machinery Wanted—Road Construction.)

Miss., Ellisville—City is reported planning street improvements. Address The Mayor.

Miss., Ellisville—Town votes Nov. 6 on \$2000 bonds to improve streets. Address Town Clerk.

Mo., Charleston—City let contract A. R. Young & Co., Lawrence, Kan., at \$76,302 to pave streets; 9725 cu. yds. excavation with classification; 16,807 lin. ft. curb; \$126.1 sq. yds. one-course concrete pavement; 27,683.5 sq. yds. 4-in. concrete base; 27,683.5 sq. yds. 2-in. asphaltic concrete wearing surface; 800 lin. ft. concrete header; changing 24 manhole tops in sanitary sewer system; Berthe Engineering Co., Engr., Charleston. (Lately noted inviting bids.)

N. C., Ayden—City issued \$15,000 street-improvement bonds. Address The Mayor.

N. C., Bayboro—Pamlico County will construct 12½ mi. natural soil road; County Commrs., Floyd H. Reel, Clerk, receive bids until Nov. 5; Raymond R. Eagle, Engr., New Bern, N. C. (See Machinery Wanted—Road Construction.)

N. C., Fremont—Town Commrs. will issue \$20,000 bonds to improve streets and sidewalks and install electric-light plant.

N. C., Greensboro—City will resurface 10,000 sq. yds. on Elm St. and 5000 sq. yds. on other streets; some on concrete base and some on old macadam; City Commrs. receive bids until Oct. 25; E. J. Stafford, Mayor. (See Machinery Wanted—Paving.)

N. C., Pikeville—Town Commrs. will issue bonds to improve streets and install electric-light plant.

N. C., Pittsboro—Chatham County, Williams Township, let contract to C. C. Jordan, home office Birmingham, Ala. (present location Wadesboro, N. C.), to grade roads and surface with top soil or gravel; \$30,000 available.

Okla., Ada—Pontotoc County Commrs., Milton Garner, County Clerk, will vote Nov. 16 on \$50,000 bonds to build roads and bridges. (Lately reported to vote on bonds.)

Okla., Bartlesville—Washington County Commrs., Bartlesville, and Osage County Commrs., Pawhuska, Okla., will have surveys made for macadam road between Bartlesville and Pawhuska, 26 mi.

Tex., Barstow—Ward County, Pyote Dist., votes Nov. 3 on \$80,000 bonds to construct Southern highway through county. Address County Commrs.

Tex., Corsicana—Navarro County, Powell Road Dist., votes Nov. 10 on \$60,000 bonds to construct roads. Address County Commrs.

Tex., Dallas—City let contract Bramley Latham Paving Co. of Dallas at \$23,003.98 to pave Peak St. from East Grand Ave. to Forney St.

Tex., Fort Worth—City let contract General Construction Co. of Fort Worth to pave Travis Ave., from Shaw to Cantey St., 11,500 sq. yds.; F. J. Von Zuben, City Engr. (Lately noted inviting bids.)

Tex., Houston—W. D. Haden & Co. of Galveston have contract to surface roads in vicinity of Ellington field, aviation camp, near Webster; surface 5 mi. of road, about 100,000 sq. yds., with waridamite composition construction under supervision of Lieut. Edward Burns, Govt. official in charge of field.

Tex., Jasper—Jasper County voted \$500,000 bonds to construct roads. Address County Commrs.

Tex., Snyder—Scurry County defeated \$100,000 bonds for road construction. (Lately noted to vote.)

Va., Rustburg—Campbell County Supvrs. applied to State Highway Dept., Richmond, for \$20,000 appropriation to be used in connection with \$20,000 to be contributed by county and districts for permanent improvement of Lynchburg and Campbell County Courthouse turnpike, Ward's Rd. and Lynchburg and Salem Turnpike.

SEWER CONSTRUCTION

Md., Aberdeen—War Department, Washington, D. C., will construct sewer system for ordnance proving ground; P. Flanagan & Sons, 2 E. Lexington St., Baltimore, have contract. (See Land Development.)

Md., Annapolis—Anne Arundel County Commrs. let contract Lewis Aelle & Sons at \$348 to construct sewer system in Glen

burnie; specifications and plans by E. T. Hayman, County Engr. (Lately noted.)

Miss., Louise.—Village votes Nov. 6 on \$2500 bonds to construct sewer system. J. S. Cook, Mayor. (Lately noted.)

N. C., Benson.—City will install sewerage; Gilbert C. White, Conslt. Engr., Durham, N. C. (See Water-works.)

N. C., Leaksville.—Town is considering construction of sewer system and water-works; conferring with J. N. Ambler, Conslt. Engr., Winston-Salem. M. E. Murray, Secy. Water-works and Sewerage Assn.

Okla., Miami.—City voted \$80,000 bonds to construct storm sewer system and \$20,000 to extend sanitary sewer system; lately noted to vote. Address The Mayor. (See Water-works.)

Okla., Ada.—City let contract Koehler Construction Co., Kansas City, Mo., at \$25,550 to furnish material and construct sanitary lateral sewer in Dist. No. 6; 3315 ft. 10-in. and 13,890 ft. 8-in. vitrified sewer pipe; also to Talbert Construction Co., Muskogee, Okla., at \$24,673 to construct sewerage-disposal plant, including Imhoff tank, contact beds, sludge beds, filters, etc.; Benham Engineering Co., Engr., Colcord Bldg., Oklahoma City. (Lately noted.)

S. C., Spartanburg.—City will construct sanitary sewer extensions and intersecting sewer; bids until Nov. 5; J. F. Floyd, Mayor. (See Machinery Wanted—Sewer Construction.)

Tenn., Nashville.—City will extend Stewart St. arm of P. & B. trunk sewer from point near McEwen St. to 27th Ave.; J. W. Dashiell, Secy. Board of Commrs. receives bids until Oct. 30; Wm. Gupton, Mayor. (See Machinery Wanted—Sewer Construction.)

Tex., Eagle Lake.—City will construct sanitary sewer system; 11,500 lin. ft. 6 and 8-in. pipe; bids until Nov. 6; Norris Engineering Co., Engr., Wharton, Tex. (See Machinery Wanted—Sewer Construction.)

Tex., San Antonio.—City let contract Young & Ramsey of San Antonio at \$3335 to construct storm sewers on Dakkas St. and Jones Ave.

Tex., Nacogdoches.—City let contract Winslett-Eldredge Co. of Dallas to construct 8 or 10 mi. of sanitary sewers; cost \$40,000. (Lately noted.)

Tex., Seguin.—City will construct sewer system and disposal plant; bids until Oct. 31; Bartlett & Raney, Engrs., San Antonio; Chas. Bruns, Mayor. (See Machinery Wanted—Sewer Construction.)

SHIPBUILDING PLANTS

Ga., Brunswick.—American Shipbuilding Co., executive office, 11 Broadway, New York, let contract to Lang & Orr, Brunswick, for constructing \$10,000 building. (Recently noted increasing capital from \$50,000 to \$500,000, letting contract J. G. Conzelman, Brunswick, to erect 150x60-ft. 2-story mill-construction shop building, etc.)

Ga., Brunswick.—Brunswick Marine Construction Co., Wm. U. Taylor of New York, Pres., determining details to provide machine tool plant, smelting equipment, giant riveters, etc., for constructing steel vessels; heretofore building wooden ships.

Miss., Biloxi.—Mississippi Shipbuilding Corp. organized; W. W. Dwyer, Pres.; J. W. Dwyer, Secy.; James Colletti, Mgr.; general agents, W. W. Dwyer & Co., 32 Broadway, New York; leased waterfront site; establish shipyards; construct 2000-ton schooners as initial production; install plant machinery costing \$10,000; erect plant buildings of ordinary construction; C. H. Daughdrill, Archt.-Engr., Box 63, Biloxi. (Mississippi Shipbuilding Corp., W. W. Dwyer of New York, representative, noted in August as to establish shipyards.)

TELEPHONE SYSTEMS

Md., Aberdeen.—War Dept., Washington, D. C., will construct telephone and telegraph systems for ordnance proving-ground. (See Land Developments.)

Okla., Okmulgee.—Pioneer Telephone Co., Oklahoma City, will erect exchange building; let contract Rhinehart & Donovan of Oklahoma City.

S. C., Taylors.—Taylors Telephone Co. inctpd. by W. Y. McDaniel, J. F. Freeman, C. C. Hammett and others.

TEXTILE MILLS

N. C., Charlotte.—Hosiery.—Charlotte Knitting Mills plans to install knitting machinery for half hose.

N. C., Wilmington.—Hosiery.—Peoples Hosiery Mills inctpd. with \$200,000 capital by

E. Fred. Bauck, Stacy Adams and E. T. Burton.

N. C., Icard.—Hosiery.—Icard Mfg. Co. will build 60x100-ft. finishing and dyeing plant. (Lately noted as to install machinery.)

Va., Danville.—Silk.—Dan City Silk Co. organized by Bentley & Twohey Silk Co., Trenton, N. J.; capital \$50,000; leased 1-story 140x85-ft. building; remodel by plans and specifications; Heard & Cardwell, Archts., Danville; install \$30,000 silk manufacturing equipment.

Va., Norfolk.—Tire Fabrics.—Norfolk Tire Fabric Co. organized by Benj. C. Brownell and associates; purchased site on Eastern Branch of Elizabeth River; build plant manufacture automobile tire fabrics; Russell Edward Mitchell, Archt., Norfolk. Mr. Brownell wires Manufacturers Record: 625x264-ft. brick, steel, concrete and glass construction building costing \$300,000; install machinery costing \$740,000; weekly capacity 50,000 lbs. core fabric.

WATER-WORKS

Ark., Earle.—Earle Light, Water & Ice Co. increased capital from \$15,000 to \$60,000.

Ark., Little Rock.—Arkansas Water Co. plans to expend \$100,000 for improvements and extension; replace two 16-in. mains with 20-in. pipe; ordered 6 additional filters each with daily capacity of 500,000 gals., and 25 small filters with average combined capacity of 8,700,000 gals. per 24 hours; remodel old 2,025,000-gal. pump, placing it in new pit and attaching to new 5,000,000-gal. pump; total daily pumping capacity to be increased to 20,000,000 gals. (Noted in August.)

Ark., Texarkana.—Texarkana Water Corp., W. H. Roth, Pres., Philadelphia, Pa., will erect pumping station to increase water supply; ordered pump and engine. (Noted in August to install additional machinery to increase water supply.)

Ky., Irvine.—Still Water & Gas Co., H. L. Leete, Engr. and Supt., will expend \$25,000 on lately-noted water-works construction; capacity 250 gals. per min.; erect pump station, cost \$1000; install triplex pump and standpipe. (See Machinery Wanted—Pump.)

Md., Aberdeen.—War Department, Washington, D. C., will construct water-works for ordnance proving ground. (See Land Development.)

Miss., Pascagoula.—International Shipbuilding Co. will build water-works for shipyards and employees' residential district.

Miss., Tunica.—City, B. L. Russell, Mayor, voted \$9000 bonds to drill well.

Mo., Mound City.—Mound City Electric Light & Ice Co. is reported to have municipal franchise to supply water.

Mo., Joplin.—City voted \$100,000 bonds to construct water-works; J. J. McAfee, City Engr. (Lately noted.)

N. C., Benson.—City will install water-works and sewerage plant; plans being prepared by Gilbert C. White, Durham, N. C., Conslt. Engr.

N. C., Leaksville.—Town is considering construction of water-works and sewer system; conferring with J. N. Ambler, Conslt. Engr., Winston-Salem. M. E. Murray, Secy. Water-works and Sewerage Assn.

Okla., Guthrie.—City, H. P. Cook, Commr. Public Utilities, advises Manufacturers Record: Preliminary survey being made for reservoir; bonds have not been voted; election in about 90 days; Benham Engineering Co., Oklahoma City, in charge of work. (Supersedes recent item.)

Okla., Indianola.—Town, M. Finigan, Pres. Town Board, will construct water-works; cost \$15,000. (Bonds voted, previously noted.)

Okla., Marshall.—City plans \$5000 expenditure for water-works improvements, to include drilling well 20 ft. diam., laying ½-mi. pipe and installing electric pump; will let contracts; H. J. Spieser, Engr. (Lately noted as probably to vote on \$5000 bonds for water-works construction.)

Okla., Shawnee.—City plans to secure adequate supply of well water; plans for wells not perfected; F. G. Brown, Engr., Shawnee; E. L. Moore, Supt. of City Water-works. (Lately noted contemplating improvements.)

Okla., Wapanucka.—City voted \$14,000 bonds to construct water-works. Address The Mayor. (Lately noted.)

Okla., Miami.—City voted \$200,000 bonds to include \$45,000 for additional mains and machinery for water-works; \$45,000 for improvements to electric-light plant; \$80,000 for storm sewer system; \$20,000 for extension of sanitary sewer system; \$10,000 for pump and automobile fire truck for Fire Department;

Hughes Engineering Co., Engr. (Lately noted to vote.)

Va., Portsmouth.—City plans water-supply improvements; W. B. Bates, City Mgr., advises Manufacturers Record: City contracted with Scofield Engineering Co., Philadelphia, Pa., to prepare expert report on water situation for Portsmouth and vicinity; ascertain most economical and feasible course for obtaining water supply; furnish report by January 15.

WOODWORKING PLANTS

Ark., Swifton.—Cooperage.—Southern Cooperage Co. will build plant.

Ga., Thomasville.—Crates and Baskets.—R. C. Balfour, Jr., and Homer Williams purchased Georgia Crate & Basket Co.'s plant and plan to enlarge.

Ky., Hazel.—Staves and Heading.—Hazel Heading & Sawmill Co. will rebuild plant burned at loss of \$8000.

Ky., Louisville.—Chairs.—E. Z. Comfort Chair Co. inctpd. by Geo. B. Chase, G. Wallace Denhard and Howard B. Hachl.

Va., Remington.—Staves.—Caleb G. Collins, Kellys Ford, Va., contemplates establishment of plant to manufacture barrel staves. (See Machinery Wanted—Stave Machinery.)

FIRE DAMAGE

Ala., Attalla.—John Hammond's residence on 6th Ave.; loss about \$20,000.

Ala., Ball Play, K. D. from Murrayscross.—Allen Alford's sawmill.

Ala., Birmingham.—William Bird's residence in East Lake; loss \$2100.

Ala., Birmingham.—T. W. McClellan's residence; loss \$2000.

Ala., Georgiana.—Dwellings of Mrs. Laura Peschal, C. L. Sims and Jas. M. Sims.

Ark., Arkadelphia.—Cone building, used as dormitory at Ouachita College; Dr. C. E. Dicken, Pres.

Ark., Banks.—J. L. Childs' sawmill; loss \$10,000.

Ark., Heber Springs.—Jas. P. Bickle's farm residence near Heber Springs.

Ark., Lepanto.—Dwellings of Albert Seymour, P. M. Wayne, Sam Stuckey and L. M. Duncan.

Ark., Marked Tree.—Schonberger & Blum's store; Arkansas Drug Store; Blue Ribbon Store, and number other buildings; reported loss \$75,000.

Ala., Montgomery.—Sheridan Club at Camp Sheridan; loss \$10,000.

Ark., Newport.—J. A. McMichael's residence near Newport.

Ark., Pocahontas.—Pocahontas Milling Co.'s lumber plant and yards; loss \$15,000.

Ark., Tichenor.—Luther Hostetter's garage.

Fla., Fort Myers.—W. W. Montgomery's residence in East Fort Myers.

Ga., Fort Valley.—J. M. Houser's cotton warehouse; Sheppard's Livery Stable; J. L. Brown's building; loss \$30,000.

Fla., New Augustine.—Frank Reiderich's residence and barn.

Ga., Nashville.—J. F. Austin's market building and other structures.

Ga., Newnan.—Mrs. Nancy J. Chandler's farm residence; loss \$2500.

Ga., Owensboro.—S. S. Fryar's seedhouse.

Ga., Thomson.—B. F. Johnson's cotton warehouse.

Ky., Middlesboro.—Crystal Restaurant owned by Nick Hill, Rockwood, Tenn.; loss \$5000.

Ky., Somerset.—Somerset Baptist Church; loss \$40,000. Address The Pastor.

La., Lafayette.—La Fayette Steam Laundry; loss \$3000.

Ky., Paris.—Wm. Bryan's residence; loss \$4000.

Md., Ridderwood.—Mrs. Wilton Snowden, Jr.'s, residence; loss \$12,000.

Miss., Deason.—Delta Farms Co.'s cotton gin; loss \$50,000.

Miss., Hattiesburg.—Firm Lumber Co.'s plant; loss \$20,000.

Mo., Mineral Point.—Stores of Wm. Bass and Frank Lore; loss \$4000 each.

Mo., Nevada.—Goss & Glenn's Clothing Co.'s store; reported loss \$50,000.

Mo., Kansas City.—Eisberg's Baking Co.'s bakery at 1727 Brooklyn Ave.; loss \$6000; building was owned by S. R. Eisberg.

N. C., Elizabeth City.—Felix R. Elliott's store.

N. C., Lilesville.—I. L. McNeill's sawmill. N. C., Maxton.—Maxton Gin Co.'s cotton gin; loss \$3000 to \$5000.

Okla., Cement.—Indianola Gin Co.'s cotton gin.

N. C., Louisville.—R. T. Bailey's residence.

Okla., Atoka.—Durant Cotton & Oil Co.'s cotton gin; loss \$9000.

Okla., Bartlesville.—Quapaw Gas Co.'s garage; loss \$100,000.

Tenn., Brownsville.—Moses Bldg., owned by Mrs. R. Y. Moses and occupied by E. Bacherig's meat market and Read Grocery Co.; loss \$4000.

Tenn., Scotts Hill.—White Hotel; Farmers' State Bank; postoffice and number stores; loss \$30,000 to \$50,000.

Tenn., Covington.—Churchill & Company's cotton compress; loss \$225,000.

Tenn., Memphis.—Bolton College dormitory and boarding-house.

Tenn., Ripley.—Farmers & Merchants' Milling Co.'s flour mill and grain elevator; loss \$33,000.

Tex., Belton.—O. E. Miller's dwelling.

Tex., Biardstown.—F. T. Gunn's cotton gin, seedhouse and contents; loss \$9000.

Tex., Brownell.—Kirby Lumber Co.'s saw and planing mills and dry kilns.

Tex., Bryan.—Max Tapper's residence; loss \$5000.

Tex., Edna.—C. Branch's feed storehouse; loss \$6500.

Tex., Forney.—Elliott Lumber Co.'s lumber shed; J. J. Dosier's residence; loss \$6000.

Tex., New Boston.—J. F. Walker's cotton gin; loss \$12,000.

Tex., Pearsley.—B. G. Whitten's cotton gin; loss \$5000.

Tex., Roby.—Buildings owned by L. W. Burney, I. R. Wells, Mrs. J. N. Weakley, Sam Barron and H. T. Timmons.

Tex., San Augustine.—J. S. Henry's cotton gin.

Tex., Santa Anna.—Stores of Adams-Childers Grocery Co., Texas Mercantile Co., C. E. Welch Co. and Racket Store; loss \$50,000.

Tex., Sherman.—G. B. R. Smith Milling Co.'s warehouse; loss \$25,000.

Tex., Wichita Falls.—Roy Taylor's residence.

Tex., Wichita Falls.—Wayde rooming-house owned by E. P. Greenwood; loss \$5000 to \$6000.

Va., Mt. Jackson.—Carroll Bldg., owned by W. E. Carroll; loss \$5000.

Va., Toano.—Stores of G. W. Jones, Eli Moore, J. E. Banks, A. B. Smith and G. W. Hicks; loss \$25,000.

W. Va., Rippen.—Dr. Howard Osborne's barn on farm near Rippen.

W. Va., Tunnelton.—Bonafield Garage; loss \$20,000 to \$25,000.

WRECKED BY EXPLOSION

Ark., Jenny Lind.—Western Coal & Mining Co.'s main coal mine, fan house and fan engine; offices in St. Louis, Mo.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

Ala., Gadsden.—A. M. Rattray will erect \$5000 apartment-house.

Md., Baltimore.—Dr. Thomas A. Foley will remodel dwelling for offices and apartment-house. (See Bank and Office.)

Okla., Miami.—L. Judd will erect apartment-house; 48 rooms; brick and stucco.

Tex., Waco.—J. C. Dumont has plans by Geo. Burnett Co., Waco, for apartment-

house; 40x100 ft.; 2 stories; reinforced concrete; tar and gravel roof; 2 hot-air furnaces; cost \$12,000.

Tex., San Antonio.—Miss. E. R. Lytle will erect apartment-house; cost \$8000.

Va., Lynchburg.—Samuel Life will convert hospital building at 10th and Court Sts. into apartment-house; 48x127 ft.; 40 rooms; brick; terra-cotta trim; tin roof; wood floors; will change partitions, install bath fixtures, plumbing, etc.; cost \$5000.

ASSOCIATION AND FRATERNAL

Ala., Anniston.—Y. M. C. A. will erect building; cost \$8500; H. B. Rudisill, Gen. Chairman.

Fla., Pensacola.—Y. M. C. A., B. G. Alexander, Associate War Work Secy. for Southeast, 310 Y. M. C. A. Bldg., Atlanta, will erect Army and Navy Y. M. C. A. building to replace structure lately destroyed by hurricane at navy yards near Pensacola; 167x33 ft.; temporary wood construction; wood and paper roof; wood floors; stoves; electric lights; cost \$5000. (Lately noted.)

Okla., Drumright.—Loyal Order of Moose plans to erect \$15,000 lodge building.

Okla., Woodward.—B. P. O. E. plans to erect lodge building.

Va., Williamsburg.—Williamsburg Lodge No. 6, A. F. & A. M., C. W. Hunt, Secy., postponed erection of lodge and office building for present; brick; 3 stories. (Lately noted.)

BANK AND OFFICE

Fla., Pensacola.—First National Bank will repair interior of building.

La., Coushatta.—People's State Bank will erect bank and office building; brick; tar and gravel roof; tile and concrete floors; cost \$9000 to \$9800; bids opened about Nov. 1; Edw. F. Nield, Archt., Commercial National Bank Bldg., Shreveport, La., may be addressed. (Lately noted.)

Md., Baltimore.—Dr. Thomas A. Foley, 1400 S. Charles St., purchased 4-story dwelling at 1526 Eutaw Place and will remodel; first floor for offices; apartments above.

Miss., Jackson.—Mrs. W. J. Croom will let contract to J. H. Meyer, Jackson, to erect garage and office building to replace structure lately noted damaged by fire at loss of \$11,000; 50x175 ft.; brick; composition roof; 1st floor, concrete; 2d floor, frame. Address owner.

Okla., Drumright.—C. K. Bennett will erect 3-story office building.

Okla., Haskell.—Haskell National Bank plans to remodel bank building.

Tex., Jasper.—Citizens' National Bank will remodel brick store building for office building.

Va., Norfolk.—Tazewell Street Realty Corporation will probably open bids Dec. 31 to erect store, office and loft building; 6 stories; 127x144 ft.; reinforced concrete frame; brick and stone; terra-cotta facing; metal windows and doors; 2 electric passenger and 2 freight elevators; cost \$300,000; Rossel Edward Mitchell, Archt., Norfolk. (Previously noted.)

Va., Williamsburg.—Williamsburg Lodge No. 6, A. F. & A. M., C. W. Hunt, Secy., postponed erection of office and lodge building. (See Association and Fraternal.)

CHURCHES

Ark., Ashdown.—Little River Baptist Association, Grover Cobb, Secy., Ashdown, is considering erecting \$15,000 church building.

Fla., Pensacola.—Knox—Presbyterian Church, Rev. Mr. McIlwain, Pastor, is considering erecting building.

Fla., Vero.—Catholic Church, Rev. Father Gabriel, Pastor, Fort Pierce, Fla., will erect building; 72x28 ft.; frame; galvanized metal shingle roof; wood floors; cost \$3000; no contract to be awarded; all material ordered and labor secured; construction begins Nov. 1. (Lately noted.)

Ga., Atlanta.—Seventh Day Adventists have plans by Jos. Sherley, Atlanta, for church building; 44x72 ft.; brick; asbestos roof; opera plant roof; furnace; electric lights. Address B. W. Brown, 169 Bryan St., Atlanta. (Lately noted.)

Ga., Popes Ferry.—Pine Mont Baptist Church will erect \$2000 structure; Renfro Taylor, Clerk.

La., Jennings.—Christian Church will move and remodel building. Address The Pastor.

Miss., Farrel.—Methodist Church has plans by M. M. Alsop, Clarksdale, Miss., for building.

Miss., Tylertown.—Methodist Church is having plans prepared by Xavier A. Kramer, Magnolia, Miss., for building; will soon call for bids. (Lately noted.)

N. C., Elizabeth City.—First Methodist Church, Rev. J. L. Cunningham, Pastor, will erect building.

N. C., Elizabeth City.—Newbegun Methodist Church will expend \$2500 to remodel building. Address The Pastor.

Okla., Cherokee.—First Methodist Church will erect building; J. F. Maher, Archt., Great Bend, Kan. (Previously noted.)

Okla., Shamrock.—Methodist Episcopal Church purchased F. L. White property and will remodel for church building. Address The Pastor.

Pa., South Williamsport.—Methodist Episcopal Church will erect church and parsonage; 100x60 ft.; 40 ft. high; exterior wall brick trimmed with terra cotta; interior trimmed red gum; hardwood and tile floors; cost \$45,000; C. H. Weaver, Archt., 503 W. Southern Ave., South Williamsport; Rev. W. A. Craver, Pastor. Address architect.

Tex., Beaumont.—First Baptist Church will erect 3-story Sunday-school addition; 15x100 ft.; stone; cost \$35,000; John L. Keith, Chrmn. Com.

Va., Portsmouth.—Chevra Thelme Congregation will erect synagogue; Maxwell Silverman, Chairman Bldg. Com.

CITY AND COUNTY

Ark., Harrison.—County Commrs. plan to erect 2-story brick infirmary building at poor farm; about 30 rooms; 62x82 ft.; cost \$15,000.

Ark., Little Rock.—Auditorium.—City will expend \$15,000 to remodel auditorium. Address The Mayor.

Fla., Palatka.—Jail.—Putnam County Commissioners contemplate remodeling county jail; will confer with architects Nov. 12; R. J. Hancock, Clerk Circuit Court.

Fla., West Palm Beach.—Jail.—City will issue \$8000 bonds to erect jail. Address The Mayor.

Ga., Davishboro Park.—City is considering election on park bonds. (See Schools.)

Okla., Tulsa.—Warehouses and Garages.—City will erect 2 municipal garages and warehouses; each 50x120 ft. Address The Mayor.

Tex., Stamford.—City Hall and Fire Station.—City opens bids Oct. 22 to erect city hall and fire station; cost \$25,000; D. S. Castle, Archt., Abilene, Tex. (Lately noted to open bids Oct. 12.)

W. Va., Glenville.—Jail, etc.—Gilmer County Court, N. E. Rymer, Clk., receives bids until Dec. 1 to erect courthouse, jail and jailer's residence. (See Courthouses.)

COURTHOUSES

W. Va., Glenville.—Gilmer County Court, N. E. Rymer, Clk., receives bids until Dec. 1 to erect courthouse, jail and jailer's residence; plans and specifications at office of A. F. Wyson, Archt., Princeton, W. Va. (Noted in Sept.)

DWELLINGS

Ala., Gadsden.—A. P. Reich will erect residence.

Ala., Gadsden.—L. L. Herzberg plans to erect dwelling.

Ala., Gadsden.—Louis Hart will erect 4 residences.

Ala., Gadsden.—J. L. Herring is reported to erect dwelling.

Ala., Gadsden.—Mrs. Carol Wilson Foster will erect residence.

Ala., Tuscaloosa.—M. B. Horton will erect 3 residences to replace structures lately noted damaged by fire; one 10-room residence; concrete; slate roof; cost \$4000; others to cost \$3000 each.

Ark., Little Rock.—J. N. Moxley will erect 1-story frame dwelling; cost \$2500.

Ark., Wynne.—Norma Hancock is having plans prepared by John P. Almand, Little Rock, for residence.

D. C., Washington.—John W. Sharer, 17 T St. N. W., will erect hollow tile residence, 3400 41st St. N. W.; cost \$5300.

D. C., Washington.—Thrift Building Co., 709 Union Trust Bldg., has plans by Geo. T. Santmyers, 921½ New York Ave., Washington, for 9 brick dwellings, 1308-24 Randolph St.; cost \$27,000.

Fla., West Palm Beach.—Walter Hazelhurst will erect 2-story dwelling.

Ga., Atlanta.—M. L. Rauschenberg will erect two 2-story dwellings; cost \$13,000.

Ky., Louisville.—C. T. Thomas will erect frame dwelling; cost \$4000.

La., New Orleans.—James Kathman and associates will erect 5 cottages in Homedale Park.

Md., Baltimore.—Philip S. Morgan, 12 E. Lexington St., Baltimore, has drawings by Edward L. Palmer, 513 N. Charles St., Baltimore, for 5 dwellings on Roland Ave.; 3 stories; brick; hardwood floors; tile baths; garage under each structure; construction by owner, who may be addressed.

Miss., Pascagoula.—International Shipbuilding Co. will erect 60 cottages for workmen.

Mo., Kansas City.—Joseph Schaffer will erect 14 cottages in Pocono Manor.

Mo., Kansas City.—Maud Grey will erect six 2-story frame dwellings; cost \$12,000.

Mo., Kansas City.—F. L. Lafoon will erect 2-story stucco and stone dwelling; cost \$4000.

Mo., Kansas City.—C. L. Simpson will erect 4 frame dwellings; cost \$3700.

Mo., Kansas City.—B. L. Binker Realty Co. will erect fifteen 2-story stucco dwellings; cost \$37,500.

N. C., Hickory.—J. W. Warlick will erect residence; 2 stories; brick veneer; 41x70 ft.; asphalt shingle roof; hot-air heat; electric lights; Q. E. Herman, Archt., Hickory.

N. C., Hickory.—Miss Emma Bonner contemplates erecting bungalow; Q. E. Herman, Archt., Hickory.

Okla., Cherokee.—H. B. Kiewer will erect residence; J. F. Maher, Archt., Great Bend, Kan.

Okla., Kingfisher.—W. A. Mitchell rejected all bids for residence and will build by day labor; 7 rooms, 2 baths, halls and porches; frame, tile-veneer and stucco; composition and metal tile roof; hardwood floors with ship-lap sub-floor; cost \$10,000; hot-water heat, \$1000; Aurelius-Swanson Co., Archts., Oklahoma City. (Lately noted.)

Okla., Oklahoma City.—D. E. Huffman will erect 1-story frame dwelling, 823 W. 24th St.; cost \$2000.

Okla., Oklahoma City.—A. Fenter will erect residence; 1 story; frame; cost \$2000.

Okla., Oklahoma City.—J. E. Roehr will erect 1-story frame residence; cost \$2800.

Okla., Oklahoma City.—H. D. Garrison will erect 2-story frame dwelling; cost \$5000.

Tenn., Memphis.—W. F. Wessen will erect 1-story, 6-room brick double dwelling; cost \$3000.

Tex., Arlington.—J. M. Grogan will erect residence.

Tex., Arlington.—E. Ditto will erect residence.

Tex., Beaumont.—J. E. Longe will erect \$1900 residence.

Tex., Beaumont.—Burt Hoopes will erect four 5-room bungalows; total cost \$5300.

Tex., Beaumont.—Tom Jenkins will erect 5-room bungalow; cost \$2800.

Tex., Floydada.—D. H. Collins will erect \$3500 residence.

Tex., Floydada.—F. S. Truitt will erect \$2500 residence.

Tex., Marfa.—B. T. Corder will erect dwelling; 7 rooms; brick; cost \$5000.

Tex., San Antonio.—W. A. Baity will erect 5-room dwelling; cost \$2000.

Tex., San Antonio.—Sam Freidman will erect 2 dwellings; cost \$3000.

Tex., San Antonio.—Mrs. M. Biehl will erect dwelling; cost \$2000.

Tex., San Antonio.—G. L. Dingman will expend \$3000 to repair 2 dwellings.

Va., Richmond.—Max Rehrmund will erect 2-story brick dwelling on 5th St. near Federal St.; cost \$4200.

W. Va., Charleston.—Mrs. E. N. Mayer has plans by W. B. Camp, 1301 Union Trust Bldg., Charleston, for residence; 32x50 ft.; frame and stucco; asphalt shingle roof; gas furnace; gas and electric lights; cost \$5000; bids opened Nov. 1. Address architect.

W. Va., Charleston.—C. H. Helzel has plans by W. B. Camp, 1301 Union Trust Bldg., Charleston, for residence; 32x42 ft.; hollow tile and stucco; asphalt roof; gas furnace; city electric and gas lighting; cost \$7500; bids opened Nov. 1. Address architect. (See Machinery Wanted—Reinforcing Steel Rods—Metal Lath.)

GOVERNMENT AND STATE

D. C., Washington.—Storehouse.—Bureau of Yards and Docks, Navy Department, will erect 2-story brick building; concrete foundation; wood piles; slag and pitch roof; bids opened Oct. 22.

Md., Baltimore.—Postoffice.—Treasury Department, Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., rejected all bids to repair and paint postoffice and courthouse. (Lately noted.)

Mo., Caribou.—Postoffice.—Treasury Department, Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., receives bids until Nov. 20 to construct postoffice.

N. C., Chapel Hill.—Postoffice.—Treasury Department, Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., opens bids Nov. 27 to construct postoffice; drawings and specifications from Custodian of site at Chapel Hill, and Mr. Wetmore, Washington.

Tex., Fort Worth.—Barracks.—War Department will erect barracks for 1500 additional aviators.

Va., Cherrystone.—Officers' Quarters.—Bureau of Yards and Docks, Navy Department, Washington, D. C., will erect officers' quarters; bids opened Oct. 22; F. R. Harris, Chief of Bureau, Washington.

HOSPITALS, SANITARIUMS, ETC.

D. C., Washington.—District Commrs. receive bids until Oct. 31 to construct hospital kitchen at Washington Asylum, at 19th and D Sts. S. E.; plans and specifications from Chief Clerk, Engr. Dept., Room 427, District Bldg.

Ga., Milledgeville.—Committee on Buildings and Grounds, Georgia State Sanitarium, is having plans prepared by T. H. De Sausure, State Sanitarium, Milledgeville, for negro building. (Previously noted to erect 3 buildings for which \$200,000 was available.)

Ga., Macon.—City is considering election on bonds to complete hospital. (See Contracts Awarded—City and County.)

Mo., St. Louis.—Board of Public Service, E. R. Kinsey, Prest., 268 New City Hall, receives bids until Oct. 30 to erect clinic building, connecting corridor, fumigating and garage building; also to install plumbing, sewerage, gasfitting, heating system, wiring and fixtures; plans and specifications at office of Mr. Kinsey as above.

Tenn., Nashville.—Davidson County Hospital has plans by Thos. W. Gardner and Edward Dougherty, 728 Stahlman Bldg., Nashville, for 1-story frame addition to hospital for negro wards; bids opened Oct. 23.

HOTELS

Ala., Gadsden.—Louis Hart of Bellevue Highlands Co. is promoting erection of combined hotel and country club on Look-out Mountain; 4 stories; probably 150 rooms; rustic style; stone and shingles; cost \$150,000; fourth floor and roof garden for Mountain Rest Club.

Fla., Jacksonville.—Dr. E. H. Armstrong, owner of Riverview, is conferring with capitalists relative to erection of health-resort hotel; F. S. Tousey, Mgr. Riverview Estates.

La., New Orleans.—St. Charles Hotel, Alfred S. Amer, Gen. Mgr., will remodel Italian garden for convention hall; seating capacity 1200.

La., New Orleans.—Planters' Hotel Co. organized with \$25,000 capital by Arthur W. Simpson, Prest.; A. D. Stewart, Mgr.; leased hotel at Dauphine and Iberville Sts., and will enlarge and equip; 136 rooms and 86 private baths.

Miss., Pascagoula.—International Shipbuilding Co. will erect 60-room hotel for employes.

Mo., Kansas City.—W. N. Hunter, V. P. Bison Coffee Co., St. Louis, will remodel Glen Arm Apartments for family hotel.

S. C., Greenville.—A. D. L. Barksdale, Citizens' Trust Co.; Ed. L. Ayers, Ayers Millinery Co., and D. E. Massey, Greenville Tile & Mantel Co. leased Mansion House and will remodel for hotel; renovate each room; install steam heating plant, etc.

Tenn., Knoxville.—Whittle Springs Co., Incptd. by J. W. Williams, Prest.; O. F. Whittle, V. P.; R. H. Whittle, Secy.-Treas.; reported to erect \$300,000 hotel, \$50,000 country club, with 18-hole golf course and swimming pool to cost \$25,000; hotel, 300x60 ft.; exterior of stone, brick, tile and stucco; several dining-rooms; mezzanine floor above lobby; lobby to have tile floors, heavy beamed ceiling, fireplace, 5 ft. wide; offices, news stand, checkroom, ballroom, 75x40 ft.; each of 125 rooms to have access to bath and lavatories; fountain and court in center of building; steam heat; erect number of cottages; first floor of clubhouse to contain reception hall, sun parlor, dining-room, ballroom, etc.; second, lockers, shower bath, lounging and dressing-rooms; portion of basement for pool and billiard-rooms, lockers and lavatories; first and second floors to face pergolas and fountain; links of golf course to be laid out by J. M. Inglis, Montgomery; old 80-acre lawn and park surrounding hotel to be beautified; swimming pool to accommodate 500; provided with filter system; install Turkish-bath facilities; also establish bottling plant to prepare Whittle Springs water for delivery. (Previously noted.)

Tex., McAllen.—W. A. Fitch, Commercial Hotel, is interested in erection of \$75,000 hotel.

W. Va., Logan.—Aracoma Hotel Co. Incptd. with \$20,000 capital by C. McD. England, J. M. Vest, Wm. G. McCall and others.

MISCELLANEOUS

Ala., Gadsden.—Clubhouse.—Louis Hart of Bellevue Highlands Co. is reported promoting erection of combined hotel and clubhouse. (See Hotels.)

Ark., Little Rock.—Livery Stable.—W. S. May will erect 1-story brick livery stable; cost \$2500.

Ark., Little Rock.—Club Building.—Pulaski County Boys' Club, T. J. Craighead, Supt., will erect club building; cost about \$18,000.

Ga., Valdosta.—Barn.—A. T. Woodward will erect barn; 70x40 ft. with 14-ft. shed all around.

N. C., Pinnacle.—Summer Colony.—C. H. Bradley, Jacksonville, Fla., and Arthur M. Graffling, Miami, Fla., will develop summer colony at foot Pinnacle Mountain; erect 20 to 25 cottages, community-house, etc.

Okl., Tulsa.—Clubhouse.—Ozark Outing Club will erect \$7000 clubhouse; M. C. Hale, E. B. Guthrie and W. A. Downing, Comm.

RAILWAY STATIONS, SHEDS, ETC.

Okl., Drumwright.—Gulf, Colorado & Santa Fe Ry., F. Mettitt, Ch. Engr., Galveston, Tex., plans to erect addition to depot; materials ordered.

Okl., Guthrie.—Interurban R. R. Co. will erect terminal station at 319-25 W. Oklahoma Ave.

Tenn., Jackson.—Illinois Central R. R. Co., Frank R. Judd, Engr. of Bldgs., Chicago, will erect storehouse, office and oilhouse; portion 1-story, composition roof, 37x175 ft.; another, 2 stories, 37x72 ft., slate roof; all outside walls brick; oilhouse, 16.6x34 ft., with basement; fireproof; heat from central plant; second floor, offices; storehouse floor, wood blocks; toilet-room floors, concrete; office floors, maple. (Lately noted.)

SCHOOLS

Ark., Leachville.—School Board has plans by J. H. Bliss, Little Rock, for school; cost \$30,000; will issue bonds.

Ark., Ingalls.—School Board, W. T. Crow, Pres., will remodel school.

Ark., Pine Bluff.—Trustees, State Industrial School for Boys, Julia Houston, Secy., will erect school building; cost about \$8000.

Fla., Jacksonville.—Department of Public Instruction has plans by R. A. Benjamin, Jacksonville, for graded school at 5th and Hubbard Sts.; 20 classrooms, auditorium, manual training and domestic science rooms; semi-fireproof; clay tile and composition roofing on decks; in new portion, metal floor tile and concrete; heating not decided; electric wiring; cement tile sidewalks; cost \$70,000, exclusive of plumbing and heating; bids opened Oct. 27. (Lately noted.)

Fla., Tallahassee.—Bryan Mack, Secy., receives bids until Nov. 12 to construct dormitory building and educational building for Florida State College for Women; separate bids for heating; drawings and specifications at office Edwards & Sayward, Architects, 633 Candler Bldg., Edward Conrad, Pres., Tallahassee, and Mr. Mack as above; \$92,000 available.

Ga., Atlanta.—Georgia Training School for Girls is having plans prepared by A. Ten Eyck Brown, Atlanta, for dormitory building; 2 stories; brick veneer; composition shingle roof; steam heat; electric lights; cost \$25,000; will call for bids in a week or 10 days. (Lately noted.)

Ga., Davisboro.—City is considering election on \$30,000 school and park bonds. Address The Mayor.

Ga., Douglasville.—City voted \$30,000 bonds to erect school building. Address The Mayor. (Previously noted.)

Ga., Hawkinsville.—Hugh M. Dorsey, Governor, Atlanta, receives bids until Nov. 15 to erect building for 12th District A. & M. College.

Ga., Louisville.—Board of Education will erect high school; 2 stories; 50x70 ft.; brick; metal roof; wood floors; cost \$10,000; steam heat, \$500 to \$600; will open bids before Dec. 1. Address O. B. Trammell. (Lately noted.)

La., Shreveport.—Shreveport Training School for Girls has plans by J. P. Annan, Shreveport, for alterations and rewiring building; cost \$2000; day labor.

Miss., Grenada.—John Gaisford, Memphis, Tenn., is preparing sketches for dormitory for girls; about 140x100 ft.; brick; composition roof; steam heat; cost \$50,000.

Miss., Lexie.—School Trustees are having plans prepared by Xavier A. Kramer, Mag-

nolia, Miss., for school building; will soon call for bids.

Mo., Kansas City.—Kansas City School District will erect Manchester school at 15th St. and Winchester Ave.; Hale H. Cook, Pres., Board of Education. (Previously noted to have voted \$2,000,000 school bonds.)

N. C., Durham.—Durham Business School, Mrs. Walter Lee Lednum, Pres., leased Carolina Hotel and will remodel for school building; convert dining hall into auditorium, install heating plant, etc.

N. C., Hildebran.—Graded School Board has plans by Q. E. Herman, Hickory, N. C., for school; 70x55 ft.; 2 stories and basement; brick; hardwood floors; electric lights; Barrett's cluster shingle roof; 5 classrooms and auditorium.

Okl., Clinton.—Board of Education, P. G. Newkirk, Clk., receives bids until Oct. 29 to erect Ward School; cost \$15,000; separate bids for plumbing and heating; plans and specifications at office Hawk & Parr, Architects, 501 Security Bldg., Oklahoma City. (Previously noted.)

Okl., Oklahoma City.—Board of Education moved Garfield annex to Jefferson school and will erect additional room.

Okl., Sapulpa.—Board of Education, J. W. Young, Clk., will erect high school; bids opened Oct. 25.

Okl., Stillwater.—A. & M. College is reported having plans prepared for 3-story concrete building; cost \$100,000.

S. C., Landrum.—Landrum School Dist. is considering election on high school bonds. Address District School Trustees.

Tex., Alpine.—Governor Hobby signed bill deferring appropriation for Normal School. (See Tex., Kingsville.)

Tex., Barnhart.—School Board is having plans prepared by David S. Castle, Abilene, Tex., for school; call for bids about Dec. 12; will vote on \$15,000 bonds.

Tex., Burkburnett.—School Board will erect high school; 8 rooms; brick; gravel roof; concrete and wood floors; heating and lighting arranged for; architect or contractor not selected; construction begins in about two months; cost about \$14,500. Address W. Daniel, Secy. (Lately noted.)

Tex., Bryan.—City voted \$90,000 bonds to erect high school. Address The Mayor. (Previously noted.)

Tex., Cameron.—Briar Branch, New Salem and Lewis Dist., consolidated and will soon call election on bonds to erect 4-room school building. Address Dist. School Trustees.

Tex., Kingsville.—Governor Hobby signed bill deferring appropriations for Normal School at Alpine, South Texas Normal at Kingsville and East Texas Normal at Nacogdoches; A. C. Goeth, Pres., State Normal School Board of Regents, Austin. (Previously noted.)

Tex., Nacogdoches.—Governor Hobby signed bill deferring appropriation for East Texas Normal. (See Tex., Kingsville.)

W. Va., Moundsville.—Moundsville Board of Education abandoned plans to erect high school and graded school for which \$168,000 was voted. (Lately noted.)

STORES

Ala., Gadsden.—Rosenbaum Bros. will erect 2-story brick store building; 25x100 ft.; sprinkler system; elevator; cost \$7000.

Ark., Calico Rock.—E. B. Milburn will erect stone business building.

Ark., Earle.—Dr. MacBee plans to erect 5 business buildings.

Ark., McCrory.—Fletcher Lewis and Buck Comer are having plans prepared by John P. Almand, Little Rock, for store building to replace structure lately noted damaged by fire; 100x120 ft.; 1 story; brick.

Fla., Jacksonville.—C. Hatten will remodel two-story brick building at 710 W. Bay St.; cost \$2000.

Fla., West Palm Beach.—H. T. Grant will erect building; 38x75 ft.

Ga., Atlanta.—Parker Drug Co. will enlarge and remodel store building.

Ga., Atlanta.—Harry G. Poole will erect brick business building.

Ga., Brunswick.—S. S. Rickett acquired 2-story brick structure and is reported to remodel.

Ga., Lexington.—Smith Bros. will erect store building; 48 to 50x100 ft.; 1 story; metal roof and ceiling; concrete floor; granite trimmings; cream brick front with plate glass; skylights, etc. (See Machinery Wanted—Metal Ceiling; Metal Covering.)

Ky., Louisville.—L. Jacobson will erect 2 brick stores; cost \$2500 each.

Ky., Louisville.—Mrs. E. Morbach will erect brick store building; cost \$3000.

Miss., Loulin.—M. L. Parker will erect store to replace building lately noted damaged by fire; brick construction.

Miss., Loulin.—Wilkins & Boykin will erect brick store to replace structure lately noted damaged by fire.

Miss., Loulin.—J. C. Morris & Co. will rebuild structure lately noted damaged by fire; brick; 24x80 ft.; bids opened about Nov. 15.

Miss., Loulin.—J. M. Byrd & Sons will erect brick building to replace burned structure; lately noted.

Mo., Kansas City.—Charles Olson will erect 1-story frame building; cost \$2000.

N. C., Asheville.—Mrs. Alice T. Connally will expend \$15,000 to remodel and erect addition to store occupied by C. A. Rayson.

Okl., Lawton.—J. Pollick, Oklahoma City, plans to erect brick business building.

Okl., Ringling.—G. A. Fletcher & Co. are having plans prepared for business building.

Okl., Shamrock.—Charley Hjlma and Frank Casa are reported to erect 2-story brick store building.

Okl., Stillwell.—Fletcher & Son plan to erect brick business building.

S. C., Dillon.—Wm. Brick will erect store building to replace structure previously noted damaged by fire; 30x120 ft.; 2 stories; brick; metal roof; wood floors; electric lights; cost about \$10,000.

S. C., Greenwood.—Taylor Bros. are erecting store building.

Tenn., Nashville.—W. L. Horn will expend \$2500 to alter brick building at 5th Ave. and Union St.

Tex., Floydada.—A. B. Duncan will erect \$5000 business building.

Tex., Plainview.—R. M. Eilers is erecting six 1-story and one 2-story brick and tile business buildings; cost \$30,000.

Tex., Plainview.—C. Saegling is erecting 3 business buildings; 1 story; brick and tile; cost \$18,000.

Tex., San Antonio.—Dr. J. H. Burleson has plans by H. T. Phelps, Gunter Bldg., San An-

tonio, for store building; tapestry brick; stone trim; cost \$10,000.

Va., Norfolk.—Tazewell Street Realty Corporation will probably open bids Dec. 31 to erect store and office building. (See Bank and Office.)

Va., Portsmouth.—Hawks-Maupin Co. will erect building to replace structure previously noted damaged by fire; 2 stories; 113x100 ft.; floor space 22,000 ft.; also erect warehouse in rear.

THEATERS

Ky., Louisville.—Fourth Avenue Amusement Co. will alter moving-picture theater; cost \$2000.

Miss., Hattiesburg.—Carey George is having plans prepared by Xavier A. Kramer, Magnolia, Miss., for moving-picture theater; will soon call for bids.

Tex., Plainview.—W. H. Coon, Amarillo, Tex., has plans by Harrison & Kerr to erect 2-story brick theater building; 25x120 ft.; cost \$15,000.

WAREHOUSES

Ga., Cedartown.—Standard Warehouse Incorporated with \$10,000 capital by F. W. Wood, A. W. Stubbs and H. W. Branch.

Mo., Kansas City.—Riverside Storage Co. Incptd. with Geo. J. Miller, Pres.; Wm. Volker, V.-P., and Emmett F. McElroy, Secy.-Treas.; acquired 3 tracts containing respectively 52,000, 58,000 and 62,000 sq. ft.; plans to build 3 warehouses; grading will require about a year and removal of about 200,000 yds. dirt; structures 8 stories on lower level of site and 5 stories on above street; reinforced concrete construction; reported cost \$2,000,000.

N. C., Enfield.—Halifax Tobacco Warehouse Co. Incptd. with \$50,000 capital by Ivey Watson, W. F. White and others.

S. C., Greenwood.—Stockham & Taylor Bros. are erecting warehouse 116x23 ft.

Tenn., Nashville.—Hermitage Hardwood Flooring Co. will erect frame metal-clad warehouse; cost \$2250.

Tex., Palestine.—Company organized with W. H. Calcutt, Pres.; J. B. Oldham, V.-P., will soon let contract to erect 10,000-bu. capacity sweet-potato warehouse.

BUILDING CONTRACTS AWARDED

APARTMENT-HOUSES

Ga., Atlanta.—J. F. Calhoun let contract to Heath & Broom, Atlanta, to erect apartment-house at 322 E. North Ave.; 2 stories; brick; cost \$6000.

Ga., Atlanta.—Andy K. King let contract to Heath & Broom, Atlanta, to erect 2-story brick-veneer apartment-house; 8 apartments of 5 rooms; cost \$17,000; M. F. Morris, Archt., Atlanta National Bank Bldg., Atlanta.

Ga., Atlanta.—Dr. L. B. Palmer let contract to Alex. D. Hamilton, 69 Ivy St., Atlanta, to erect 12-room tenement-house; frame; composition roof; wood floors; gas lighting; cost \$2750. (Lately noted.)

Ga., Atlanta.—Jas. K. Darden let contract to Alex. D. Hamilton, 69 Ivy St., Atlanta, to erect 12-room tenement-house; frame; composition roof; wood floors; gas lights. (Lately noted.)

Okl., Miami.—Management of Savoy Hotel let contract to erect apartment building; completion by Jan. 1; cost \$25,000.

Tenn., Chattanooga.—A. A. Drago let contract to W. L. Cook, Chattanooga, to erect apartment-house; 3 stories; 2 suites on each floor; brick and stone; gravel roof; wood floors; cost \$12,000; Stewart & Johnson, Architects, Chattanooga.

ASSOCIATION AND FRATERNAL

Ark., Little Rock.—Y. W. C. A. War Work Council, Mrs. Moorhead Wright, Chrmn., let contract to Stewart-McGehee Construction Co., Little Rock, to erect hostess-house at Camp Pike.

Ga., Augusta.—Y. W. C. A. let contract to T. O. Brown & Sons, Augusta, to erect gymnasium building; brick, concrete and hollow tile; 2 stories; steam heat; white Ceramic Mosaic tile for swimming pool; Bleckley & Irvin, Architects, King Bldg., Augusta. (Previously noted.)

S. C., Greenville.—National Y. W. C. A. let contract to J. John McDevitt, Chattanooga, Tenn., to construct hostess-house near Camp Sevier; country-club bungalow type; cafeteria to seat 200; cost \$15,000 to \$20,000; Fay, Kellogg, Archt., 32 Union Sq. E., New York. (Lately noted.)

Va., Lynchburg.—W. K. Barger, Lynchburg, general contractor to erect Y. W. C. A. build-

ing, let following sub-contracts: A. P. Montague, iron and steel material; J. Lew Brown, plumbing; Clifton W. Whitmore, electrical wiring; F. M. Trent, painting; T. B. Dornin-Adams Co., roofing and sheet-metal work; Lynchburg Lumber Mfg. Co., millwork; all of Lynchburg; Chesapeake Terra-Cotta Co., Baltimore, terra-cotta; McClamroch Co., Greensboro, N. C., tile work; cut stone material and finishing hardware, not let; heating not in general contract; Mr. Barger will have charge of concrete, brick work and plastering, hiring labor for same; plans by Stanhope S. Johnson, Lynchburg, call for 2-story basement and sub-basement structure; Fisklock tapestry brick; stone trim; Barrett roof; wood floors; 3-way prism vault lights; city lighting; vapor heat; cost about \$100,000. (Previously noted.)

BANK AND OFFICE

D. C., Washington.—Potomac Electric Power Co. let contract to Samuel Prescott, 814 13th St. N. W., Washington, to erect addition to office building at 14th and R Sts.; 45x60 ft.; fireproof; slag roof; tile and cement floors; steam heat; electric elevators; cost \$30,000; Milburn, Helster & Co., Architects, Union Savings Bank Bldg., Washington.

D. C., Washington.—National Savings & Trust Co. let contract to Meltzer & McKay, 216 Oxford Bldg., Washington, to remodel building, 717 13th St. N. W., for offices; cost \$8379; A. E. Landvoigt, Archt., 1406 G St. N. W., Washington.

Ga., Atlanta.—Adair & McCarty let contract to A. J. Krebs, Atlanta, to remodel Walton Bldg.; number of alterations on 9th floor, etc.; cost \$3500.

Md., Baltimore.—Harry B. Wolf let contract to Fred. Wright, 206 Courtland St., Baltimore, to erect 3 additional stories to office building under construction at 110-12 E. Lexington St.; 50x100 ft.; hot-water heat; slag roof; cost \$15,000; Otto G. Simonson, Archt., Maryland Casualty Tower, Baltimore. (Previously noted.)

Okl., Claremore.—National Bank of Claremore let contract to remodel building; floor to be lowered; white marble fixtures, etc.; G. D. Davis, Cash.

Okl., West Tulsa.—A. L. Farmer, P. O. Box 1935, Tulsa, let contract to erect office and store building. (See Stores.)

Tex., Gonzales.—Farmers' National Bank let contract to enlarge building, install new fixtures, etc.

Tex., Dallas.—Fred. A. Jones Construction Co., Dallas, general contractor to erect building for Southland Life Insurance Co., let following contracts: C. Wallace Plumbing Co., plumbing and heating; Citizens' Planing Mill Co., wood sash; Southern Architectural Cement Stone Co., cement stone; J. F. Allison & Co., lathing and plastering; Austin Brothers, ornamental and miscellaneous iron; J. B. Sanford, painting; Buell Planing Mill Co., millwork; J. Desco & Son, marble and tile; Dallas Heating & Ventilating Co., sheet metal work; Cammack Electric Co., electrical work; all of Dallas; H. W. Johns-Manville Co., stack lining; Otis Elevator Co., elevators; both of New York; Cutler Mail Chute Co., Rochester, N. Y., mail chute; plans by Lang & Wittich, Southwestern Life Bldg., Dallas, call for 8 stories and roof garden; Turner flat slab concrete frame; promenade tile and composition roof; cement, tile and wood floors; steam heat; high-speed electric elevators; cost \$250,000 to \$300,000. (Previously noted.)

Va., Norfolk.—Flatiron Square Locality Corp., W. B. and R. F. Baldwin, representatives, let contract to W. T. Gregory, Norfolk, to erect office and store building on Flatiron Square to replace structure previously noted burned; plans by Neff & Thompson, Norfolk, call for 2 stories; fireproof; concrete, with brick and stone exterior above first floor; ground floor of plate glass; first floor for stores; offices above; cost \$50,000. (Lately noted not to erect building on this site.)

CHURCHES

Ky., Winchester.—Methodist Episcopal Church let contract to N. A. Powell, Winchester, to erect building; stone; tile roof; cost \$75,500; John Galsford, Archt., 408 Goodwyn Institute, Memphis, Tenn. (Lately noted.)

Okl., Oklahoma City.—Christian Church is reported to have let contract to J. W. Lucas, Oklahoma City, to erect addition to 1-story frame church building.

CITY AND COUNTY

Fla., Arcadia—Jail.—De Soto County let contract to F. C. Ralls, Arcadia, Fla., to erect additional story to jail; brick and concrete; concrete floors; cost \$4000; Franz Safe & Lock Co., Archt., Jacksonville. (Previously noted.)

Ga., Macon—Auditorium.—City is considering election on additional bonds to enlarge proposed auditorium for which W. J. Beeland, P. O. Box 445, Macon, is general contractor, and Alexander Blair, also of Macon, is architect; also considering election on bonds to complete hospital. (Previously noted.)

Tex., Galveston—Pavilion.—City let contract to erect pavilion; 35-ft. octagon; frame, stucco; composition roof; cement floors; cost \$4000; Stowe & Stowe, Archts., Galveston; Myron A. Kesner, designer of grounds, Dallas. (Lately noted.)

Va., Portsmouth—Fire Department.—City let contract to L. L. Reynolds, 323 High St., Portsmouth, to repair Independent Fire Engine House; wood construction; plans by W. B. Bates, City Mgr. (Lately noted.)

COURTHOUSES

Ark., Harrisburg.—Poinsett County Commrs. let contract to H. E. Keck to erect courthouse.

Okl., Stillwater.—Lisle-Dunning Construction Co., Oklahoma City, general contractor to erect courthouse for Payne County, let following sub-contracts: Structural and ornamental steel, J. B. Klein Iron & Foundry Co.; plumbing and heating, B. Z. Hutchinson Plumbing Co.; roofing, sheet metal and metal trim, Hugh L. Turner; reinforcing steel, Capital Steel & Iron Co.; painting, H. T. Woodress; cut stone, O. K. Cut Stone Works Co.; lathing and plastering, A. E. Mahdi; electric wiring, McEldowney & Son Electric Co.; all of Oklahoma City; plate glass, Pittsburgh Plate Glass Co., Pittsburgh, Pa.; acoustics, Union Fiber Co., Winona, Minn.; plans by Hair, Tonini & Bramblett, Oklahoma City, call for stone, concrete and brick structure; 97x55 ft.; tile roof; maple floor over concrete; steam heat; electric lights; cost \$110,550. (Previously noted.)

DWELLINGS

D. C., Washington.—H. B. Callahan, 502 H St. N. E., let contract to Conrad Chaney to erect frame dwelling, 2210 Lawrence St. N. W.; cost \$3200.

Fla., St. Augustine.—G. W. Atkinson, Federal Point, Fla., let contract to C. B. Shugart, St. Augustine, to erect 3 additional bungalows on Nelmar terrace; two 1 story, with 6 rooms each; other, 8 rooms. (Lately noted.)

Fla., St. Petersburg.—Charles F. Unrath, Chicago, let contract to Beard & French to erect residence; cost \$5000.

Fla., St. Petersburg.—H. C. Smith, 5th St. and 6th Ave. South, let contract to R. L. Sharp, St. Petersburg, to erect residence; 27x48 ft.; frame; asphalt roof; wood floors; gas radiators; cost \$2600; H. H. Dupont, Archt., Central Bank, St. Petersburg. (Lately noted.)

Fla., Miami.—J. M. Bercegay, Box 714, Miami, will erect \$4500 residence; part red-wood shingles and part boarding; screen porch; 2 sleeping porches; 3 bedrooms; double garage; contract let. (Lately noted.)

Ga., Atlanta.—H. D. Martin let contract to H. D. Williams, Atlanta, to erect 2-story frame dwelling; cost \$2500.

Ga., Atlanta.—Dr. C. R. Jolly will erect 2-story brick-veneer building; Mrs. Nora G. Webb, Contr., Atlanta.

Ga., Atlanta.—Mrs. T. S. Lovette let contract to Charles Wm. Burnhardt, Atlanta, to erect 1-story frame bungalow; cost \$3750.

Md., Baltimore.—Pierre C. Dugan & Nephew, 16 E. Lexington St., let contract to Alexander Schratke to erect cottage at Summit Farms, Philadelphia Rd., near Herring Run; 6 rooms and bath.

Miss., Clarksdale.—R. G. Luckett let contract to erect 6-room bungalow on De Soto Ave.

Miss., Clarksdale.—J. T. Skinner and Wm. Morford, Clarksdale, have contracts to erect 2 bungalows for L. S. Landry, 3 bungalows for Johnson-Harlow Lumber Co., 2-story residence for Mr. Luckett and cottage for A. C. Gautier; material furnished by Johnson-Harlow Lumber Co.

N. C., Hickory.—J. M. Allred let contract to L. L. Moss, Hickory, to erect bungalow; cost \$6000; Q. E. Herman, Archt., Hickory.

S. C., Anderson.—Equinox Mills let contract to Builders' Lumber & Supply Co., Anderson, to erect fifteen 3-room cottages; cost \$10,000.

S. C., Anderson.—Equinox Mills let contract to Builders' Lumber & Supply Co., Anderson, to erect fifteen 3-room cottages; cost \$10,000.

S. C., Anderson.—Equinox Mills let contract to Builders' Lumber & Supply Co. to erect fifteen 3-room dwellings for employees; wood; shingle roof; cost \$10,000; plans by owner.

S. C., Greenville.—A. Adams let contract to J. N. Williams & Sons, Greenville, to erect \$2000 dwelling; H. Olin Jones, Archt., Greenville.

Tenn., Memphis.—Colonial Trust Co. let contract to L. E. Moody, Memphis, to erect 1-story 5-room brick-veneer dwelling; cost \$2000.

Tex., Houston.—J. W. Maxey let contract to Russell Brown Co., Houston, to erect residence.

Tex., Houston.—J. F. Dickson let contract to Russell Brown Co., Houston, to erect residence.

Tex., Houston.—C. S. Fish will erect residence in Southmore Addition; Russell Brown Co., Contr., Houston.

Tex., Houston.—J. E. Hero let contract to Russell Brown Co., Houston, to erect dwelling in Southmore Addition.

Tex., Houston.—G. Monroe let contract to Russell Brown Co., Houston, to erect residence in Montrose Addition.

Tex., Houston.—L. E. Christiansen let contract to Russell Brown Co., Houston, to erect dwelling on Rusk Ave.

Tex., Trinity.—Mrs. A. M. Shaw let contract to H. L. Shaw, Trinity, to erect residence and business building; 2 stories; 9 rooms; frame; 24x48 ft.; cost \$25,000.

Va., Hopewell.—E. I. du Pont de Nemours & Co. let contract to C. W. Hancock & Sons, Lynchburg, to erect 184 dwellings.

Va., Portsmouth.—Thos. P. King let contract to George P. Fleming, Portsmouth, to erect 2-story frame dwelling; cost \$2800.

GOVERNMENT AND STATE

Fla., Miami.—Postoffice.—Treasury Department, Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., let contract at \$2489 to Allan T. Howison, 964 Avenue J, Miami, to repair interior of postoffice and provide 500 additional lock boxes.

Ga., Macon—Weather Bureau.—Government let contract to Grohne Contracting Co., Joliet, Ill., for improvements to weather bureau to include repainting, marble work in lobby and shower baths, tile roof, installation of door, etc.

Md., Aberdeen.—Proving Grounds.—War Department, Washington, D. C., will build homes, quarters for officers and employees in connection with ordnance proving grounds, etc.; Morrow Bros., 1201 Fidelity Bldg., Baltimore, have building contract. (See Land Development.)

Mo., Jefferson City—State Capitol.—State let contract to Globe-Wernicke Co., St. Louis, at \$8375.30 for cabinet work for rostra for House and Senate chambers; Tracy & Swartwout, Archts., 244 Fifth Ave., New York. (Lately noted.)

Va., Cape Henry—Weather Bureau.—Government let contract to R. E. Johnson, Virginia Beach, Va., to erect building for weather bureau; 38x36.6 ft.; 3 stories and basement; brick and concrete; composition roof; wood rift; No. 1 rift pine floor; cost \$19,000; hot-water heat, \$1500; Frank Upman, Archt., Washington. Address contractor.

HOSPITALS, SANITARIUMS, ETC.

Mo., Kansas City.—Christian Church Hospital Assn. let contract to Swenson Construction Co., Shubert Theater Bldg., Kansas City, to erect nurses' home; 39x115 ft.; 3 stories and basement; brick and reinforced concrete; tar and gravel roof; probably cement floors; steam heat; Henry F. Holt, Archt., 315 E. 10th St., Kansas City. (Lately noted.)

Tex., Fort Worth.—City and Tarrant County let contract to J. C. Buchanan, Jahns & Co., Fort Worth, to erect additional story to hospital on East 41st St.; also let contract to Wortham Electric Co., Fort Worth, for lighting; plans by Sanguinet & Staats, First National Bank Bldg., Fort Worth, call for reinforced concrete and brick; composition roof; reinforced concrete floors; 35x100 ft.; cost \$17,000; steam heat, \$2500. (Lately noted.)

HOTELS

N. C., Asheville.—Kenilworth Hotel Co. let contracts to Carolina Wood Products Co., Asheville, and Kralh Construction Co., Chicago, to erect tourist hotel at Kenilworth, Biltmore; 250 bedrooms; 139 baths and showers; fireproof construction; Johns-Manville asbestos roofing; fireproof construction between wood floors; cement roads and walks; cost \$500,000; Warren-Webster heating system, \$35,000; electric lights, \$30,000; 2 Otis elevators, \$6500; everything ordered except electrical wiring, light fixtures and furniture. Address Roscoe A. Marne, Kenilworth, Biltmore, N. C. (Previously noted.)

Va., Petersburg.—Petersburg Investment Co. let contract to erect 100 additional rooms to Petersburg Hotel. (Lately noted.)

MISCELLANEOUS

Fla., Vero—Poolroom.—S. E. Twitchell let contract to J. H. Baker, Vero, to build pool hall; 25x60 ft.; 2 stories; frame; composition roof; pine floors; electric lights; cost \$3000; all material purchased; plans by owner. (Lately noted.)

Md., Lonaconing.—Engineers' Club.—Maryland Coal Co. Incptd. by J. W. Galloway, Prest., Strathmore, Park Heights Ave.; Gordon Smith, 15 Mt. Royal Ave., both of Baltimore; David Williamson, Chief Engr., and Elkins Reed, Asst. Engr., Lonaconing; let contract to Arthur F. West, 15 E. Fayette St., Baltimore, to erect Engineers' Club to contain smoking-rooms, reading-rooms, lockers, etc.

SCHOOLS

Ala., Eufaula.—City let contract to Eli Giddens, Eufaula, for school on Lanford St.; 62x82 ft.; brick; 1 story; Rex slate surfaced roll roofing; pine floors except tile basement and toilet-room floors; cost \$6800; hot-air heat \$2500; electric lights \$80; J. F. Leitner, Archt., Atlanta; also let contract to B. F. Martin, Dorhan, Ala., for plumbing and heating. (Lately noted.)

Ark., Conway.—Pettit-Galloway Co., Little Rock, has contract at \$4880 and at \$7368 for plumbing and heating, respectively, for administration building at State Normal School for which W. F. Ault, Little Rock, has general contract; John P. Almand, Archt., Little Rock. (Lately noted in detail.)

Ark., Little Rock.—School Board let contract to G. W. Fair, Little Rock, to erect 8-room school at 17th and Maple Sts.; frame;

shingle roof; pine floors; stoves; city lighting; cost \$9500; Clyde A. Ferrell, Archt., Little Rock. (Lately noted.)

Ark., Swifton.—School Board let contract to erect school building; cost \$22,275.

La., New Orleans.—Alms House Trustees let contract to James Geary, 707 Title Guarantee Bldg., New Orleans, to erect Sophie Gumble School for Feeble-Minded; 2 stories; 186.6x60.10 ft.; brick exterior walls; concrete second floor; slate roof; concrete beam and slab floor construction; cost \$56,000; electric wiring, \$700; plans by Moise H. Goldstein, 706 Title Guarantee Bldg., New Orleans, and he may be addressed. (Lately noted.)

Mo., St. Louis.—Sisters of Mercy let following contracts for erection of convent: General contract, Grewe Construction Co.; plumbing, McNamara Plumbing Co.; electric work, Eclipse Electric Co.; heating, Elliott & Barry; all of St. Louis; plans by Barnett, Haynes & Barnett, Century Bldg., St. Louis, call for 4-story structure; 175x250 ft.; 2 wings, each 3 stories, 32x140 ft.; cost \$250,000. (Previously noted.)

Okl., Ardmore.—Carter County School Board let contract to Joe Pate, Ardmore, to erect 2-story brick school; cost \$12,550; J. B. White, Archt., Ardmore. (Lately noted.)

Okl., Granite.—School Trustees of Quartz Dist. let contract to Mr. Hughes, Oklahoma City, to erect school; Bramblet & Huseman, Archts., Oklahoma City. (Previously noted.)

Okl., Haldilton.—Trustees let contract to H. M. Fielding, Guthrie, Okla., to erect school. (Previously noted to have voted \$40,000 bonds.)

Okl., New Wilson.—Trustees let contract at \$21,988.85 to W. F. Huber, Ardmore, Okla., to erect Wilson High School; completion by Jan. 15.

Tex., Beaumont.—School Board has plans by Sanguinet, Staats & Gottlieb, Houston, for two 1-story additions to Refinery Dist. ward school; 2-room building on each side of administration building; accommodate 200; unit cottage system; stucco and tile; heated from plant in central building; cost \$8000 each; bids opened Nov. 6; separate bids for general construction, heating, plumbing and wiring; plans and specifications at office of J. G. Sutton, City Secty., and architects as above.

Tex., Beaumont.—St. Anthony's Catholic Church let contract at \$17,574 to Herman Weber, Beaumont, to erect parochial school; 2 stories; stucco over hollow tile; 2 steel fire escapes; Babin & Beck, Archts., Beaumont. (Previously noted.)

Tex., Merkel.—White Church School District Trustees let contract to P. L. McClary to erect \$2000 school building.

W. Va., Ethel.—Logan County Board of Education let contract to erect school building. (See W. Va., Logan.)

W. Va., Logan.—Logan County Board of Education, Charles Avis, Secy., let contract to erect 2-room frame buildings at McConnell, Dehue, Crane and Ethel, and single-room building at Lyburn; composition roofs; hardwood floors; jacketed stoves; cost of Lyburn building \$1800; other buildings \$2500 each; J. B. McCorkle, Archt., Logan. (Previously noted.)

STORES

Ala., Albany.—Casey Holland let contract to erect 2-story brick business building.

Ark., Lebesque.—Caldwell & Wilsford, Lula, Miss., let contract to R. L. Edwards, Clarksdale, Miss., to erect brick store; 30x50 ft.; cost \$4000.

Okl., Miami.—J. Milliker, Miami, has contract to erect 3-story business building.

Okl., West Tulsa.—A. L. Farmer, P. O. Box 1935, Tulsa, let contract to Brickner & Van Horn, Tulsa, to erect office and store building; brick and concrete; John W. Robb, Archt., Tulsa. Address owner. (Lately noted.)

Tex., Trinity.—Mrs. A. M. Shaw let contract to erect residence and business building. (See Dwellings.)

Tex., Waco.—J. E. Horne let contract to McFarland & Loving, Waco, to remodel store building; tar and gravel roof; metal lath; wired glass; cost \$12,000; Geo. Burnett Co., Archt., Waco.

Va., Norfolk.—Flatiron Square Locality Corp. let contract to erect store and office building. (See Bank and Office.)

WAREHOUSES

Tex., Trinity.—P. C. Lipscomb let contract to S. O. Wirt to erect warehouse and garage building; 50x100 ft.; brick and concrete; cost \$6000.

Ky., Lexington.—Frank Corbin, Lexington, has contract to repair Saml. Cassidy's livery stable for storage warehouse to be occupied by J. H. Sistrunk & Co.; plans include new roof, concrete floor, etc.; cost

\$2000. (Building previously noted damaged by fire.)

S. C., Charleston.—Condon Baking Co. let contract to M. S. Stopplebein, Atlanta, to erect warehouse; cost \$6200.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Asphalt Shingles, etc.—General Purchasing Officer, The Panama Canal, Washington, D. C.—Bids until Nov. 6 to furnish asphalt shingles and roofing nails; blanks and information (Circular No. 1179) from Canal office and offices of Assistant Purchasing Agents at New York and New Orleans and from U. S. Engr. offices in principal cities.

Airplane Supplies.—Lange & Co., Torino, Province of Piedmont, Italy.—Catalogs and price lists of manufacturers of articles connected with construction of aeroplanes; Terminals; stretchers; revolution indicators; gauges; telegraphic apparatus (wireless); compasses; geographical map holders; safety strips for aviators; aviators' casques.

Anchor and Chains.—H. J. Telper, 315 E. Church St., Jacksonville, Fla.—Addresses of manufacturers of anchors and anchor chains.

Boiler.—Thornhill Wagon Co., Lynchburg, Va.—100 to 150 H. P. boiler; new or second-hand; first-class condition; prefer as short a boiler as possible and overhanging front; prompt delivery.

Boiler Tubes, etc.—General Purchasing Officer, The Panama Canal, Washington, D. C.—Bids until Nov. 13 to furnish boiler tubes; steel chain; poultry netting; steel wire; sheet copper; brass tubing; hinges; locks; tackle blocks; grindstones, etc.; blanks and information (Circular No. 1178) from offices of Assistant Purchasing Agents at New Orleans, New York, San Francisco and Fort Mason, and from U. S. Engr. offices in principal cities.

Boxes, etc.—Carter Corporation, Crozet, Va.—Names and addresses of manufacturers of corrugated strawboard shipping boxes for apples, lithographed apple wrappers and lithographed address stickers and inside sheets for boxes.

Boilers.—Louisiana Consolidated Oil & Refining Corp., First National Bank Bldg., Shreveport, La.—Prices on 4 return tubular boilers, 100 to 150 H. P.

Boiler.—A. J. Evans, Fort Valley, Ga.—Second-hand 100 H. P. boiler.

Boilers.—Box 355, Zanesville, O.—Dealer's price on 4 or 6 second-hand 150 H. P. boilers, 18x72; butt strapped or equivalent to Ohio standard; complete with all accessories to carry 125 lbs. pressure.

Bridge (Steel) Construction.—Supervisors Prince George County, Prince George, Va.—Bids until Nov. 1 to construct 2 steel bridges across Black Water Swamp on New Road, near Disputanta; plans and specifications may be seen at office of Clerk of Court.

Bridge Construction.—Fort London Bridge Co., J. C. Anderson, Prest., Vonore, Tenn.—Bids until Nov. 28 to construct steel bridge across Little Tennessee River at Indian Rock near McGhee. (Postponed from Oct. 25; lately noted.)

Bridge Construction.—Comms. Dist. of Columbia, 509 District Bldg., Washington, D. C.—Bids until Nov. 20 to construct 7-span steelplate girder highway bridge, abutments, piers and approaches on Benning Rd. crossing tracks of Philadelphia, Baltimore & Washington R. R. and Baltimore & Ohio R. R.; proposal forms, specifications and information from Chief Clerk of Engr. Dept., Room 427 District Bldg., Washington; \$5 deposit required to obtain plans.

Canning Machinery.—J. B. Moffett, Secy., Treas., W. D. Horne Packing Co., Homestead, Fla.—Machinery for canning tomatoes; to include equipment for converting tomatoes into pulp or paste.

Cars.—Pennsylvania Equipment Co., 1420 Chestnut St., Philadelphia, Pa.—Two box cars; 20 to 50 tons capacity.

Cars.—See Mining Equipment.—W. O. Arzinger.

Cars.—Long Fork Coal Co., Sam Porter, Secy., Ashland, Ky.—Cars.

Cars (Railway).—C. Bailey, 1901 Jefferson County Bank Bldg., Birmingham, Ala.—30 log cars; 20 cars, 60,000 to 80,000 lbs. capacity.

Cars (Gondola).—Bureau Supplies and Accounts, Washington, D. C.—Bids until

Oct. 30 for delivering gondola cars at Charleston (S. C.) Navy-yard.

Cartridge Machinery.—Salvador Diez Y Gutierrez, Jarez de la Frontera, Spain.—Names and addresses of manufacturers of machinery for cartridge manufacturing.

Cleaning Machinery (Glove).—Louisville Glove Cleaning Co., 100 E. Chestnut St., Louisville, Ky.—Data and prices on glove cleaning and drying machines.

Cars (Gondola and Steel Tank).—Navy Department, Bureau Supplies and Accounts, No. 538, Washington, D. C.—Bids on 4 general-service gondola cars; also 8000-gal. steel tank car, Schedule 1544, delivery Charleston, S. C.

Cement.—Sociedad Financiera y Minera, Calle de Alfonso 12, Madrid, Spain.—Glutinating cement for manufacturing runners, whetstones and grindstones of coridon, emery or carborundum.

Chemicals.—Salvador Diez Y Gutierrez, Jarez de la Frontera, Spain.—Names and addresses of chemical manufacturers.

Chains.—See Anchors and Chains.—H. J. Telper.

Coal.—McNeel Marble Co., Marietta, Ga.—Prices on anthracite coal for heating granite sheds; quote freight rate to Marietta and when can ship.

Coke.—T. A. Kerns & Co., South Boston, Va.—Car load coke for foundry use.

Compressor (Air).—National Carbide Corporation, Bramwell, W. Va.—Air compressor; second-hand; belt driven; 250 ft. free air per minute; 100 lbs. pressure; give description, price and location.

Conveying Machinery, etc.—J. A. Beckham, care Standard Warehouse Co., Union, S. C.—Equipment to convey and stack cotton in warehouse; prefers conveyor with steel cable.

Cotton Goods.—See Hardware, etc.—Lahoud & Ortega.

Crane.—Berkeley & Schmidt, Inc., Contrs. and Engrs., American National Bank Bldg., Richmond, Va.—Gantry crane; 5 tons capacity; 50-ft. boom; immediate delivery; state price, location and condition; send photograph if possible.

Crane (Locomotive).—Jewel Supply & Equipment Co., 31 S. Calvert St., Baltimore, Md.—15-ton Browning locomotive crane; 50-ft. boom.

Crushers.—See Mining Equipment.—W. O. Arzinger.

Crushers.—See Quarrying Equipment.—Liberty Lime & Stone Co.

Cupolas.—Davis-Miller Engineering Co., Frank L. Miller, Mgr., Parkersburg, W. Va.—Prices on cupolas. (See Machine Tools.)

Drainage Construction.—Suprs. Bunnell Drainage Dist., Peter Kendrick, Ch. Engr., Bunnell, Fla.—Bids until Nov. 7 to construct 10 main canals; total lengths, 39.83 mi.; excavation, 635,367 cu. yds.; separate bids on each canal; bids to include clearing right of way, constructing road bridges, diverting dams or levees, deflectors, etc.; maps, profiles, plans and specifications on file with Ch. Engr.; copies obtainable for \$10.

Drainage Construction.—Suprs. Bimini Drainage Dist., Peter Kendrick, Ch. Engr., Bunnell, Fla.—Bids until Nov. 7 to construct 11.6 mi. drainage canals; Contract No. 1—Water Oak Canal, length 6 mi., bottom width at head 12 ft., bottom width at outlet 24 ft., excavation 117,000 cu. yds., road bridges cost \$150 each; Contract No. 2—Water Oak Stub Canal, length 3900 ft., bottom width 10 ft., right of way 40 ft., spoil bank on north side of canal, excavation 2754 cu. yds.; West Levee and Ditch—Length 12,800 ft., bottom width 10 ft., right of way 40 ft., small key ditch under spoil bank graded to form levee on north side of ditch, excavation 7576 cu. yds.; East Levee and Ditch—Length 4900 ft., bottom width 10 ft., right of way 40 ft., small key ditch under spoil bank and bank graded to form levee on north side of ditch, excavation 5913 cu. yds.; Junction Canal—Length 5250 ft., bottom width 14 ft., right of way 60 ft., excavation 13,290 cu. yds.; Saplings Levee and Ditches—Fill estimated at 2536 cu. yds.,

graded on top for roads, small key ditch under bank to form levee, length 3500 ft., material secured from ditches 10 ft. wide each, dug on each side of levee; maps, profiles, plans and specifications on file with Peter Kendrick, Ch. Engr., Bunnell, where additional copies may be obtained for \$5; bidders to make alternative bids, lump sum for all work and for any excess cubic yard excavation, or by cubic yard, including cost of clearing right of way.

Drill (Air).—Victor Traction Gear Co., Loudonville, O.—Second-hand air drill; for holes in steel up to 3/4 in. diam.; reversible type preferred.

Dryers, etc.—Thos. E. Stuart, Conslt. Engr., Alliance, Neb.—Set of triple or quadruple effect evaporators; 2000 sq. ft. heating surface; also direct fired rotary dryers; good condition; offers must give complete specifications and state where equipment may be inspected.

Drying Machinery (Glove).—Louisville Glove Cleaning Co., 100 E. Chestnut St., Louisville, Ky.—Data and prices on glove drying and cleaning machinery.

Electrical Machinery.—Liberty Lime & Stone Co., John W. Stull, Prest., Lignite, Va.—Electric drive for quarry plant. (See Quarrying Equipment.)

Grinder.—"Grinder," care Manufacturers Record, Baltimore, Md.—Prices on small grinder, about 6 in. by 12 in. State make and condition.

Garage Equipment.—W. J. Hughes, 1017 S. 28th St., Louisville, Ky.—Prices on new and second-hand garage equipment; vulcanizer, lathe, oxy-acetylene welder, drill press, tanks, etc.

Hardware.—See Boiler Tubes.—General Purchasing Officer.

Hardware, etc.—F. Jeay & Paire, 45 Rue Boudet, Bordeaux, Gironde, France.—To represent manufacturers of Hardware; cotton goods; cotton yarns for weaving; alcohol; lumber, pitchpin and spruce in boards and scantlings; tobacco leaves; empty jute bags; thinned and enameled holloware; ropes; twines; cutlery, pocket and sailor knives; rice; flour.

Hardware, etc.—Lahoud & Ortega, Caracas, Venezuela.—To represent manufacturers of common and fine earthenware; hardware; writing materials; paper; cardboard; white goods; drilling; casimores; drugs.

Hardware, etc.—General Purchasing Officer, The Panama Canal, Washington, D. C.—Bids until Nov. 3 for furnishing: Steel cable; cast-iron pipe; condenser pipe;

FOR THE BENEFIT OF

ENGINEERS ARCHITECTS MACHINERY DEALERS
CONTRACTORS BANKERS MANUFACTURERS and OTHERS

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ADDRESS: MANUFACTURERS RECORD, BALTIMORE, MD.

Electrical Material, etc.—Bureau Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until Oct. 30 for delivering electrical material and lumber at navy-yard, Charleston, S. C. Apply for proposals to supply officer, navy-yard, Charleston.

Electrical Material, etc.—Bureau Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until Oct. 30 for delivering electrical material and lumber at Norfolk Navy-yard.

Engine.—A. J. Evans, Fort Valley, Ga.—Second-hand 100 H. P. engine.

Engines.—C. Bailey, 1901 Jefferson County Bank Bldg., Birmingham, Ala.—9x10 or 10x12 double engines; double drum; standard gauge.

Engines (Hoisting; Gasoline).—Truman, Drury, Morganfield, Ky.—Addresses of manufacturers of gasoline hoisting engines with 60-ft. height of hoist and weight 1 1/2 tons.

Engineering Instruments.—See Airplane Supplies.—Lange & Company.

Evaporators.—Thos. E. Stuart, Conslt. Engr., Alliance, Neb.—Set of triple or quadruple effect evaporators; 2000 sq. ft. heating surface. (See Dryers, etc.)

Food Products.—See Hardware, etc.—F. Jeay & Paire.

Flour Mill, etc.—Walter Cowart, Union City, Ga.—Prices on small flour mill; also pea and bean huller.

nails; dowel pins; bolts; steel balls; cable thimbles; spelter; nuts; copper gauze; belt lacing; brass chain; hose clamps; hose couplings; cup hooks; hinges; drawer pulleys; gongs; flue cleaners; pouring ladles; funnels; sprinkling cans; oil cans; car locks; seine floats; salt cellars; cleavers; ice tongs; griddles; butchers' blocks; chair seats; welding spectacles; transfer cases; paper clips; erasers; memorandum books; glue; life preservers; lunyards; sandpaper; porthole glasses and window glass; blanks and information (circular 1177) obtainable from offices of Assistant Purchasing Agents at New York and New Orleans; also from United States Engineer Offices in principal cities.

Hydrants (Fire).—Bureau of Contracts and Supplies, Nashville, Tenn.—Bids until Oct. 30 to furnish f. o. b. Nashville 12 fire hydrants; specifications on file with Commissioner of Water-works, Street Cleaning and Workhouse.

Hoist.—Cambridge Electric Light Co., 46 Blackstone St., Cambridge, Mass.—Vertical cellar hoist; at least 4 1/2 ft. sq.; for maximum weight of 600 lbs.; hand-power; length of run 8 ft.; when in up position no part of equipment to project.

Hoists.—See Mining Equipment.—W. O. Arzinger.

Hoops (Barrel).—J. P. Fox, 532 Citizens' Bank Bldg., Tampa, Fla.—Hoops for fish and potato barrels.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Huller (Pea and Bean).—Walter Cowart, Union City, Ga.—Prices on pea and bean huller. (See Flour Mill, etc.)

Ladle (Foundry).—Henry Potts & Co., 650 Real Estate Trust Bldg., Philadelphia, Pa. Good second-hand 50,000-lb. foundry ladle; full specification and price in first letter.

Lathe.—See Garage Equipment.—W. J. Hughes.

Lathe and Drill Press.—E. J. Pierce, Asst. Gen. Mgr., Birmingham & Southeastern Ry. Co., Union Springs, Ala.—Second-hand engine lathe for shop use to swing 24 in. over bed and 8 ft. between centers, with compound rest and power cross feed; same to be in first-class condition; also 30-in. power drill press.

Levee Construction.—Comms. Fifth Louisiana Levee Dist., office of State Engrs., New Orleans, La.—Bids until Oct. 25 to construct following levee work in Concordia Parish, Mississippi River, right bank: Saughey Levee, new levee; contents 40,000 cu. yds. Deer Park Levee—Cutting down and rebuilding embankment; cu. yds. in cut, 890; in fill, 8200; also, until Oct. 25 to raise and enlarge College Point Levee; contents 175,000 cu. yds.; St. James Parish, Mississippi River, left bank.

Linoleum, etc.—Stevens & Co., Copenhagen, Denmark, and 290 Church St., New York.—To represent manufacturers of wall papers and linoleum.

Lithographs.—See Boxes, etc.—Carter & Company.

Locomotive.—Pennsylvania Equipment Co., 1420 Chestnut St., Philadelphia, Pa.—Second-hand American type locomotive; 16x18x24; weight 60 to 75 tons.

Locomotives.—See Mining Equipment.—W. O. Arzinger.

Locomotives.—C. Bailey, 1901 Jefferson County Bank Bldg., Birmingham, Ala.—Switch locomotive; 9x10 or 10x12 double engines, double drum; standard gauge.

Locomotives.—Pennsylvania Equipment Co., 1420 Chestnut St., Philadelphia, Pa.—5 second-hand 6-wheel switching engines; 3 with 30,000-lb. tractive power and 2 with 20,000-lb.

Log Loaders.—C. Bailey, 1901 Jefferson County Bank Bldg., Birmingham, Ala.—Two McEliff log loaders; 8½x10; skidder.

Machine Tools.—Davis-Miller Engineering Co., Frank L. Miller, Mgr., Parkersburg, W. Va.—Prices on machine shop equipment, to include lathes, planers and cupolas.

Metal Covering.—See Metal Ceiling.—Smith Bros.

Metal Ceiling.—Smith Bros., Lexington, Ga.—Prices on metal ceiling, metal covering for 1-story store building 48 to 50 ft. by 100 ft.

Metal Lath.—W. B. Camp, 1301 Union Trust Bldg., Charleston, W. Va.—Prices on metal lath for \$7500 residence.

Metals.—Navy Department, Bureau Supplies and Accounts, No. 598, Washington, D. C.—Bids to furnish rolled naval brass (angles, bar); brass (flat, round, bar); commercial sheet brass; manganese ingot bronze; cold-rolled plain sheet copper, and 71,000 lbs. sheet Muntz metal, Schedule 1533; 154,200 lbs. ferromanganese (lump, 80 per cent., standard); solder (wire, rosin core, bar, half-and-half); 38,400 lbs. long-grain spelter solder, and 7200 lbs. wiping solder, Schedule 1537; sheet lead in rolls, and roofing sheet tin (terneplate), Schedule 1536; all for various deliveries; phosphor bronze (full spring, strip, sheet), Schedule 1533, delivery Boston and Mare Island; hard-drawn bar copper, Schedule 1533, delivery Portsmouth, N. H.; 2000 lbs. cold-rolled, plain sheet copper, Schedule 1535, delivery Puget Sound; 20,000 lbs. Bessemer ferrosilicon (11 per cent., pig), Schedule 1537, delivery Boston.

Milling Machines.—Navy Department, Bureau Supplies and Accounts, No. 598, Washington, D. C.—Bids on 2 duplex milling machines, base 29x33 in., Schedule 1546, delivery Mare Island.

Minerals, etc.—Eugene Sheridan, 55 Broadway, New York.—Prices on asbestos (long fiber); barytes (crude); bauxite (up to 20,000 tons); feldspar (10 per cent., K-20); fluorspar (up to 100 tons per month); graphite (flake 90 per cent.); mica (sheet, free from metal); manganese ores (40 per cent. mn.); magnesite (crude and calcined); potash materials; chromite; corundum; bismuth ores and concentrates (not less than 10 per cent. bismuth); molybdenite; wolframite; vanadium concentrates; iron, zinc, copper; platinum; palladium; iridium ores; pyrites; state tonnage available.

Mining Machinery.—Buck Shot Mining

Co., H. B. Graulee, Mgr., Box 205, Miami, Okla.—Prices on equipment of machinery and materials for lead and zinc mining.

Mining Equipment.—W. O. Arzinger Machinery Co., Nashville, Tenn.—Prices on mining equipment to include: Nos. 5 and 6 gyratory crushers; single and double drum electric driven hoists; drag lines; steam shovels; 1 to 3-yd. mine cars; 750 to 1000 tons 20, 25 and 30-lb. rail; electric and steam locomotive; all second-hand; 2, 3 and 4-in. pipe in carload lots; 1000-gal. triplex pumps; silent transmission chain; all new.

Motor (Electric).—A. Greenberg & Son, City Market, Danville, Va.—Prices on new or rebuilt, 10 to 15 H. P. General Electric, Westinghouse or Allis-Chalmers A. C. motor; 3 cycles, 220 volts.

Paving.—City Comms., Greensboro, N. C.—Bids until Oct. 25 to resurface 10,000 sq. yds. on Elm St. and 5000 sq. yds. on other streets; some on concrete base and some on old macadam; also remove old brick on Elm St. to such points as directed by Commr. of Public Works; E. J. Stafford, Mayor.

Piledriver.—Leon County Comms., D. E. Reed, Engr., Tallahassee, Fla.—Prices on piledriver.

Pipe.—Louisiana Consolidated Oil & Refining Corp., First National Bank Bldg., Shreveport, La.—To open bids Nov. 1 on piping, etc.

Pipe and Tubing.—Navy Department, Bureau Supplies and Accounts, No. 598, Washington, D. C.—Bids to furnish regular, seamless-drawn, brass pipe; seamless, brass pipe and tubing (regular; extra strong), and hard-drawn, seamless copper tubing, Schedule 1543; 169,750 ft. extra heavy, soil, cast-iron pipe (Class D, bell and spigot), Schedule 1539; lead pipe in commercial coils, and lead pipe lining, Schedule 1536; steel pipe (black, welded, double, extra strong), regular, galvanized and lap-welded, black, steel tubing, Schedule 1538, for various deliveries; regular, seamless-drawn, copper pipe, Schedule 1543; 30,000 lbs. brass tubing (tinned inside and outside), Schedule 1542, and 3000 lbs. seamless-drawn copper tubing, Schedule 1541, delivery Norfolk; 35,700 ft. terra-cotta pipe (bell and spigot), Schedule 1539, delivery Norfolk and Boston; seamless, copper pipe and tubing, Schedule 1543, delivery Boston and Charleston.

Piping.—R. R. Eagle, Engr., Newbern, N. C.—Prices on terra-cotta and corrugated drain pipe.

Plumbing Supplies.—H. Yates, United States Public Health Service, Hampton, Va. Prices and catalogues of frost-proof water toilets for use in outbuildings; also on inside stools and connecting sewer pipe.

Pottery.—See Hardware, etc.—Lahoud & Ortega.

Pump.—Estill Water & Gas Co., H. L. Leete, Engr. and Supt., Irvine, Ky.—Prices on pump; 225-ft. lift; 250 gals. per minute capacity.

Pumps.—H. Yates, United States Public Health Service, Hampton, Va.—Wooden and iron pumps for shallow wells.

Quarrying Equipment.—Liberty Lime & Stone Co., John W. Stull, Prest., Lignite, Va.—Quarrying equipment, to include drilling, screening, grinding and crushing machinery, compressor, steam shovel and electric drive.

Rails.—See Mining Equipment.—W. O. Arzinger.

Rails.—Long Fork Coal Co., Sam Porter, Secy., Ashland, Ky.—Rails.

Rails.—C. Bailey, 1901 Jefferson County Bank Bldg., Birmingham, Ala.—1000 tons 56 or 60-lb. rails.

Rails.—Box 355, Zanesville, O.—Dealer's price on relaying rail; all weights from 12's to 70's with angles; advise quantities can furnish and price.

Refrigerating Machine.—Carroll Electric Co., 714 Twelfth St., Washington, D. C.—5, 7½ or 10-ton refrigerating machine.

Reinforcing Steel Rods.—W. B. Camp, 1301 Union Trust Bldg., Charleston, W. Va. Prices on reinforcing steel rods for \$7500 residence.

Rice Huller.—Cohoon Bros., Orlando, Fla. Names and addresses of manufacturers of rice hullers.

Road Construction.—Pamlico County Commissioners, Floyd H. Reel, Clerk, Bayboro, N. C.—Bids until Nov. 5 to construct 12½ mi. natural soil road; plans and specifications on file; Raymond R. Eagle, Engr., New Bern, N. C.

Road Construction.—Comms., Albert Zeigler, Secy., Little Rock, Ark.—Bids until

Oct. 29 to construct 7 mi. of roadway in vicinity of Woodson, Road Dist. No. 9 of Pulaski County; includes earthwork to build 22-ft. roadbed, corrugated culverts and wooden pile bridges; plans and specifications from Lund & Hill, Engrs., 527 Southern Trust Bldg., Little Rock.

Road Construction.—Escambia County Comms., Brewton, Ala.—Bids until Nov. 19 to construct 9 mi. Forest Highway, being part of State Trunk Road No. 12 between Brewton and Andalusia; 30 acres clearing and grubbing; 44,182 cu. yds. borrow; 1050 lin. ft. pipe; 50.7 cu. yds. concrete; 11,500 cu. yds. sand clay; plans and specifications on file with State Highway Dept., Montgomery, and with Probate Judge, Court-house, Brewton; additional information from W. S. Keller, State Highway Engr., Montgomery.

Road Construction.—Yalobusha County Supervisors, Coffeeville, Miss.—Bids until Nov. 5 to construct 15 mi. of roads costing about \$20,000; bids for earth and bridge work entire or separate bids for each; specifications and blank proposal forms from Johnson & Johnson, Engrs., Randolph Bldg., Memphis, Tenn.

Road Machinery.—R. R. Eagle, Engr., Newbern, N. C.—Prices on road machinery.

Rope (Steel, Wire).—J. S. Schofield's Sons Co., Macon, Ga.—10,000 ft. each of ½ and ¾-in. 6x19 plow steel wire rope; name price, make of rope and quantity.

Sewer Construction.—City of Spartanburg, S. C., J. F. Floyd, Mayor.—Bids until Nov. 5 to construct sanitary sewer extensions and intersecting sewer; plans and specifications on file with City Engr.; specifications mailed on application to J. H. Shores, Supt. of Streets.

Sewer Construction.—City of Seguin, Tex., Chas. Bruns, Mayor.—Bids until Oct. 31 to construct sewer system and disposal plant; plans, specifications and information from Mayor or Bartlett & Raney, Engrs., San Antonio.

Sewer Construction.—City of Eagle Lake, Tex.—Bids until Nov. 6 to construct sanitary sewer system; 11,500 lin. ft. 6 and 8-in. pipe; plans and specifications on file with Mayor at Eagle Lake, and with Norris Engineering Co., Engr., Wharton, Tex.

Sewer Construction.—Board of Comms., J. W. Dashiell, Secy., Nashville, Tenn.—Bids until Oct. 30 to extend Stewart Street arm of P. & B. trunk sewer from point near McEwen St. to 27th Ave.; plans and specifications on file with City Engr.; Wm. Gupton, Mayor.

Shears.—Navy Department, Bureau Supplies and Accounts, No. 598, Washington, D. C.—Bids on motor-driven, direct-connected squaring shears, Schedule 1540, delivery Mare Island.

Shingles (Asphalt).—See Asphalt Shingles, etc.—General Purchasing Officer.

RAILROAD CONSTRUCTION

RAILWAYS

Ga., Washington.—Washington & Lincoln Railroad has laid 2 miles of track on its extension from Lovelace to Lincolnton, 7½ miles and it is to be completed within a few weeks. J. R. Dyson, Washington, is Prest.

Ky., Lexington.—Middle & South Fork R. R. Co. has filed incorporation articles at Lexington; capital stock \$25,000; incorporators, W. H. Porter, N. P. Mann, A. R. Stephens, E. H. Fuller, Wm. R. Snyder, W. C. Williams and T. C. Fuller. Proposed line is from Krypton, on the Louisville & Nashville Railroad North Fork extension, to Buffalo Creek, Owsley County, through Perry and Leslie counties, 32 mi.

Miss., Nicholson.—Tracklaying has begun on the Pearl River Valley Railroad, which is to be built from Nicholson to Columbia, Miss., 55 mi. R. L. Emery, 2322 St. Charles Ave., New Orleans, La., is Prest.

Okla., Picher.—Miami Mineral Belt Railway Co. is reported to have begun construction of a branch from Picher to Columbus, Kans., 20 mi. W. Matthews, Miami, Okla., is Chief Engr.

Okla., Sapulpa.—Oklahoma Union Traction Co. has begun construction at Sapulpa of its line to Tulsa 15 miles via Red Fork. G. C. Stebbins is Prest., and I. F. Crow, Secy., both at Tulsa, Okla.

Tenn., Pressmen's Home.—George L. Berry of Pressmen's Home is promoter of the plan to build an electric interurban railway from

Ship Construction Materials.—North Carolina Shipbuilding Co., Morehead City, N. C. Catalogs of manufacturers of materials for ship construction.

Skidder.—See Log Loaders.—C. Bailey.

Stacking (Cotton) Machinery.—J. A. Beckham, care Standard Warehouse Co., Union, S. C.—Equipment to stack cotton in warehouse. See Conveying Machinery, etc.

Stencil (Steel).—Jas. S. White, Secy., Carolina Traction Co., Rock Hill, S. C.—Names and addresses of steel stencil manufacturers.

Stave Machinery.—Caleb C. Collins, Kellys Ford, Va.—Data and prices on equipment for barrel stave mill.

Steam Shovels.—See Mining Equipment.—W. O. Arzinger.

Steam Shovels.—Liberty Lime & Stone Co., John W. Stull, Prest., Lignite, Va.—Steam shovel for quarry plant.

Steam Shovels.—Box 355, Zanesville, O.—Dealer's price on 3 or more Marion shovels, models 28, 31 or 36; revolving type.

Steel.—R. R. Eagle, Engr., Newbern, N. C.—Prices on reinforcing steel.

Steel Portable Building.—Navy Department, Bureau Supplies and Accounts, No. 598, Washington, D. C.—Bids on steel portable building, Schedule 1545, delivery Annapolis, Md.

Tank (Steel).—Bureau Supplies and Accounts, Washington, D. C.—Bids until Oct. 30 for delivering steel tank at Charleston (S. C.) Navy-yard.

Telegraph (Wireless) Equipment.—See Airplane Supplies.—Lange & Company.

Textile.—See Hardware, etc.—F. Jeay & Paire.

Towers (Steel).—Bureau Yards and Docks, Navy Dept., Washington, D. C.—Bids until Nov. 5 for constructing 200-ft. steel tower and the taking down, strengthening and re-erection of existing 200-ft. steel tower at navy-yard, Norfolk. Drawings and specification (No. 2633) on application to Bureau or to commandant, navy-yard.

Towers (Steel).—Bureau Yards and Docks, Navy Dept., Washington, D. C.—Bids until Nov. 5 for constructing 300-ft. steel tower and reinforcing 2 existing steel towers at navy-yard, Charleston, S. C. Drawings and specification (No. 2631) on application to Bureau or to commandant, navy-yard.

Tubing (Brass).—See Boiler Tubes, etc.—General Purchasing Officer.

Vulcanizer.—See Garage Equipment.—W. J. Hughes.

Wall Papers.—See Linoleum, etc.—Stevens & Co.

Wharf Extension.—Constructing Quartersmaster, U. S. A., Fort Screven, Ga.—Bids on constructing wharf extension; bids until Oct. 20.

Sneedville, via Pressmen's Home, to Morris-town, Tenn., about 39 mi., and temporary survey is made, as previously stated. An electric plant, which will furnish power for the road, is under construction.

Tex., Beaumont.—The Eastern Traction Co. is reported organized to build an interurban electric railway from Houston, Tex., via Beaumont, to Lake Charles, La., about 160 mi. Ed. Kennedy, Houston, Tex., and others interested.

Tex., Bryan.—Bryan & Central Texas Interurban Railway is now laying track on its extension to Whitaker, 2½ miles.

Tex., Rosenberg.—M. M. Cravens of Rosenberg is reported to have grading contract for the Galveston, Harrisburg & San Antonio R. R.'s (Southern Pacific System) branch from Rosenberg to the Diamond Mound oil field via Needville, 21 mi. Work about 25 per cent. complete.

STREET RAILWAYS

Fla., Key West.—Key West Electric Co. proposes to lay new rails on Eaton St. R. G. Carroll is Mgr.

Okla., Tulsa.—Tulsa Street Ry. proposes to double-track its lines on several streets. F. Bruce is Auditor and Purchasing Agent.

Tex., Dallas.—Dallas Railway Co. proposes to build five railway lines and extensions to serve Second Ave., Oakland Cemetery, City Hospital, Oak Lawn, Dallas University and Oak Cliff. C. W. Hobson is Prest.

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August 1914-August 1917.

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Our Stupid Leniency in Dealing With German Spies, Men and Women.

No Peace With Unrepentant Murderers and Rapists.

The Soldiers' Question: "We Have Given Ourselves, What Will You Give?"

Germany Three Years Ago and Today.

Suppress the Traitors, Open and Secret Alike.

The Reason Why This Is Our War.

Be Not Deceived by Germany's Peace Talk.

Where Pity and Peace Would Be Sin and Curse Mankind for All Time to Come.

Soldiers of Civilization.

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FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters. Items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

FINANCIAL CORPORATIONS

Ala., Carrollton.—A new State bank is being organized with \$50,000 capital. A. E. Bell is interested.

Ark., Conway.—Union Bank & Trust Co., capital \$100,000, is organized with the following officers: J. J. Scroggins, Pres.; Dr. J. S. Martin, V.-P.; Morrillton; A. M. Ledbetter, 2d V.-P.; Martinsville; A. A. Halter, W. O. Scroggins, Wiley Mosley and W. B. Clayton, directors.

Ga., Macon.—Guaranty Mortgage & Bond Co., capital \$25,000 with authority to increase to \$500,000, is being organized by A. Block, B. P. O'Neal, L. P. Hillyer, W. R. Rogers, T. R. Turner, R. E. Douglas, John M. Ross, Richard Oudersluis and Robert W. Barnes.

Ga., Newington.—Bank of Newington is being organized as a branch of the Edgingham County Bank, Guyton, Ga. Business is to begin about Oct. 25.

Okla., Miami.—Ottawa County Abstract Co.,

capital \$5000 is organized by J. M. Harkin, Miami and P. J. Kane, El Reno.

Okla., Oklahoma City.—Empire Brokerage Co., capital \$10,000, inceptd. by F. B. Sims and H. J. Pabika, Oklahoma City and E. G. Pabika, Minco.

Okla., Waurika.—Guaranty Abstract Co., Jefferson County, capital \$5000, is inceptd. by L. B. Upham, Abbie Cargill and Thelma Bargent, all of Waurika.

S. C., Charleston.—National Life Insurance Co. of South Carolina has been granted a commission; capital \$5000. Petitioners: J. K. Nettles and Paul M. MacMillan.

Tenn., Chattanooga.—Central Labor Loan & Savings Co., Hamilton County, is inceptd. by J. E. Powell, Wm. F. Chambliss, F. M. Humphreys, Geo. M. Chambliss and Etta M. Humphreys.

Tenn., Nashville.—Nashville Savings & Loan Corporation, Stahlman Bldg., inceptd.; capital \$60,000. V. S. Tupper, Pres.; E. M. Foster and W. W. Cambill, V.-Ps.; Alton Johns, Secy., Treas. and Mgr.; J. L. Campbell, Treas., and T. G. Kittrell, Atty. Business began Oct. 15.

Tex., Florence.—Farmers' State Bank, capital \$25,000, is authorized to begin business. Claude McBryde, Pres.; Charles Kramer, Cashier.

Tex., McGregor.—First State Bank chartered; capital \$50,000; began business Oct. 9. J. H. Lockwood, Pres.; L. E. Bain, Cash.

Va., Newport News.—The Bank of Hampton Roads, to be located at 28th St. and Washington Ave., Newport News, is being organized; capital to be not less than \$100,000.

Va., Norfolk.—Central Security Co., inceptd., capital \$50,000. R. S. Jeffries, Pres.; Norfolk; C. R. Otis, Secy., Newport News.

Va., Richmond.—Continental Securities Corporation is chartered; capital \$10,000. A. D. Kaylor, Pres.; D. W. Daren, Secy.

NEW SECURITIES

Ala., Bay Minette.—(Road, Bridge).—\$75,000 of 5 per cent. 30-year \$1000 denomination Baldwin County bonds have been purchased by Sidney Spitzer & Co., Toledo, Ohio.

Ala., Birmingham.—(Public Improvement).—Ordinance has been passed providing for the issuing of \$75,000 of 5½ per cent. bonds. Address The Mayor.

Ark., Camden.—(School).—Bids will be received until 3 P. M. Nov. 14 by Board of Directors of Camden Special School Dist., G. R. Gordon, Pres., for \$75,000 of 5 per cent. bonds maturing Aug. 15, 1925 to 1949, inclusive. Board reserves right to sell only \$70,000 of said bonds. Bids will be opened at the office of Powell & Smead, Camden.



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Fla., Dade City—(Road, Bridge).—Bids will be received until noon Nov. 5 for \$10,000 of 6 per cent. bonds Special Road and Bridge Dist. No. 4, Pasco County; maturity \$1000 August 1, 1922, and \$1000 each August thereafter until retired. Address A. J. Burnside, care of Board of County Commrs., Pasco County.

Fla., Key West—(Road).—Election is to be held in Monroe County to vote on \$60,000 of Cape Sable Dist. bonds. Address County Commrs.

Fla., Mayo—(Road, Bridge).—Bids will be received until 10 A. M. Nov. 5 by Cullen W. Edwards, Clerk Circuit Court, Lafayette County, for \$250,000 of 5 per cent. \$1000, \$5000 and \$10,000 denomination bonds.

Fla., Perry—(Street, Sewer).—Bids will be opened about Dec. 1 for \$25,000 of street and \$25,000 sewer extension 5½ per cent. 20-year \$1000 denomination bonds. W. B. Davis, O. C. Kirby and P. F. Boselworth, Bond Trustees.

Ga., Davisboro—(School, Park).—Petitions are being circulated providing for an election to vote on \$30,000 of bonds. Address The Mayor.

Ky., Lexington—(Street).—Ordinance has been prepared providing for the issuing of \$254,41 of 6 per cent. bonds, dated Sept. 6, 1917. James C. Rogers is Mayor, and Jas. J. O'Brien, City Clerk.

La., Monroe—(Drainage).—Election to vote on \$400,000 of Ouachita County bonds will be held Nov. 20. W. A. O. Kelly is Clerk Police Jury.

La., St. Martinsville—(Road).—All bids received Oct. 13 for \$300,000 of bonds St. Martins Parish were rejected. New bids are to be asked. L. M. Fournet is Prest. Police Jury and J. C. Bienville, Secy.

Miss., Ellisville—(Street).—Notice is given that city proposes to issue \$3000 of bonds. H. P. Gaugh is City Clerk.

Miss., Louise—(Indebtedness).—Notice is given that \$2500 of bonds are to be issued for paying off present indebtedness. J. S. Cook is Mayor and A. R. Hutchins Clerk.

Miss., Magnolia—(School).—\$3000 of 6 per cent. bonds Leggett Consolidated School Dist., Pike County, have been purchased at par, accrued interest and \$20 premium by McColgan Bros., McComb, Miss.

Miss., Tunica—(Well).—\$9000 of 6 per cent. \$1000 denomination bonds, maturing \$1000 yearly, have been purchased at \$1015 by Bank of Commerce & Trust Co., Memphis, Tenn.

Miss., Waynesboro—(Light).—Bids will be opened Nov. 6 for \$6000 of 5 per cent. 20-year \$500 denomination bonds, dated Nov. 1, 1917. W. S. Davis is City Clerk.

Miss., Waynesboro—(Light).—Bids will be received until 2 P. M. Nov. 6 by W. S. Davis, Town Clerk, for \$6000 of 5 per cent. 5-20-year bonds.

Mo., St. Louis—(School).—Bids will be received until 2 P. M. Nov. 13 for \$2,000,000 of an authorized issue of \$3,000,000 of 4 per cent. 20-year bonds, dated Jan. 1, 1918. Richard Murphy is Prest. Board of Education.

N. C., Ayden—(Improvement).—\$15,000 of 6 per cent. 2-20-year bonds have been purchased at par and interest by Bruce Craven, Trinity.

N. C., Fremont—(Street, Light).—\$20,000 of bonds are to be issued. Address Board of Town Commrs.

N. C., Greensboro—(Courthouse).—\$250,000 of 5 per cent. \$1000 denomination Guilford County bonds have been sold at par to local banks. Address County Commrs.

N. C., Lenoir—(Funding).—Ordinance is prepared providing for the issuing of \$15,000 of 6 per cent. \$500 denomination bonds authorized last June by the Board of Town Commrs. Dated July 1, 1917; maturity Jan. 1, 1919 to 1927, inclusive. A. W. Alston is Clk.

N. C., Pikesville—(Street, Light).—Bonds are to be issued. Address Board of Town Commrs.

Okla., Ada—(Road, Bridge).—Election is to be held Nov. 16 to vote on \$570,000 of 5 per cent. 1-25-year \$1000 denomination Pontotoc County bonds. Address M. Garner. (Recently noted.)

Okla., Ardmore—(School).—\$40,000 of 6 per cent. Healdton School Dist., Carter County, bonds recently reported sold were purchased by R. J. Edwards, Oklahoma City.

Okla., Miami—(Water, Light, Sewer, Fire Department).—\$45,000 water-works, \$45,000

light, \$100,000 sewer and \$10,000 fire department 6 per cent. 25-year bonds are voted. Bonds have already been sold to R. J. Edwards, Oklahoma City, at par and \$1325 premium. R. Q. James is City Clerk.

Okla., Miami—(Road).—Election is to be held in Ottawa County. It is reported, to vote on \$400,000 of bonds. Address County Commrs.

Okla., Okmulgee—(Garbage Disposal Plant).—Bids will be received until 5 P. M. Nov. 12 for \$20,000 of 5 per cent. \$1000 denomination bonds, dated Sept. 15, 1917, and maturing Sept. 15, 1942. R. H. Jenness is Commr. of Finance.

Okla., Sayre—(Funding).—\$19,655 of 6 per cent. Beckham County bonds have been purchased by Geo. W. and J. E. Piersol, Oklahoma City.

Okla., Woodward—(Road).—Election is to be held in Woodward County Nov. 19 to vote on \$675,000 of bonds. Address County Commissioners.

S. C., Spartansburg—(School).—Question is under consideration of calling an election in Landrum School Dist., Spartansburg County, to vote on bonds. Address County Commissioners.

Tenn., Dyersburg—(Road).—\$150,000 of Dyer County bonds are voted. Address County Commrs.

Tenn., Jackson—(Sewer).—\$40,000 of 5 per cent. bonds are reported sold. Address The Mayor.

Tenn., Morristown—(Sewer).—\$15,000 of bonds have been purchased at par by the First National Bank of Morristown.

Tenn., Wartburg—(Road).—Morgan County is reported to have sold \$200,000 of 5 per cent. bonds. Address County Commrs.

Tex., Austin—(Bonds approved by Atty.-Gen.).—\$1500 of 5 per cent. 10-20-year Parker County common school dist. No. 65; \$3000 of 5 per cent. 20-40-year Harris County No. 17, and \$2500 of 5 per cent. 5-20-year Leon County No. 13; \$92,500 of 5 per cent. 20-40-year Limestone County Road Dist. No. 9; \$1700 Dist. No. 55; \$1440 Dist. No. 51; \$3200 Dist. No. 2, 5 per cent. 10-20-year Bowie County.

Tex., Barnhart—(School).—Election is to be held to vote on \$15,000 of bonds. Address School Board.

Tex., Barstow—(Road).—Election is to be held in Ward County Oct. 30 to vote on \$80,000 of 5 per cent. bonds. Address County Judge.

Tex., Brady—(Road).—Bids are being received by J. E. Brown, Judge of McCulloch County, for \$30,000 of 5 per cent. 10-40-year bonds Road Dist. No. 2.

Tex., Corsicana—(Road).—Election is to be held in Powell Road Dist., Navarro County, Nov. 10 to vote on \$60,000 of bonds. Address County Commrs.

Tex., Dallas—(School).—Bids will be opened Oct. 24 for \$500,000 of 4 per cent. 40-year \$1000 denomination bonds, dated Nov. 1, 1917. Wm. Durant is Commr. Finance and Revenue.

Tex., Granbury—(School).—Bids will be received at any time by A. F. Larned, Secy. Board of School Trustees, for \$25,000 of 5 per cent. 10-40-year Granbury School Dist. bonds, dated Sept. 1, 1917; Denomination \$500.

Tex., Jasper—(Road).—\$500,000 of 5 per cent. Jasper County bonds are voted. Address County Commrs.

Tex., Lockney—(Water-works).—\$25,000 of 5 per cent. 20-40-year \$500 denomination bonds voted Sept. 15 will not be ready for sale before Nov. 1 or 15. These are the bonds recently reported to be sold Oct. 15. J. R. Meriwether is Mayor.

Tex., Snyder—(Road).—\$100,000 of 5 per cent. 40-year Scurry County bonds defeated.

Va., Front Royal—(Road).—\$10,000 of 5 per cent. 20-30-year South River Dist., Warren County, bonds have been purchased at par by A. L. Warthen, Prest. Front Royal National Bank.

W. Va., Elm Grove—(Paving).—Bids will be opened about Dec. 15 for \$87,000 of 5 per cent. \$100 denomination bonds, dated Oct. 15, 1917, and maturing Oct. 15, 1951, payment to commence 10 years from date. Address G. W. Campbell.

W. Va., Fairmont—(Road).—Bond issues aggregating \$1,175,000 voted by Grant, Lincoln and Paw Paw Dist., Marion County, have been purchased by the State of West Virginia.

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OLD DOMINION LAND COMPANY
NEWPORT NEWS, VA.

LOANS MADE TO STATES, CITIES, COUNTIES, ETC.

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Largest Capital and Surplus of Any Financial Institution in Maryland or Any Southern State.

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MANUFACTURERS OF
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Estimates furnished on Diebold Safes and Vaults. We have the largest stock of new and second-hand safes south of New York.

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THE SELWYN HOTEL, Charlotte, N. C.

EUROPEAN PLAN, \$1.50 and UP

Fireproof. Modern and Magnificently Furnished. 150 Rooms, 75 with Private Bath. Large Sample Rooms. Under New Management. Most Desirable Location. Long Distance Phone in Each Room. Caters Especially to the Tourist and Commercial Traveler.

SELWYN HOTEL CO.

R. W. FARR, Manager

CHESAPEAKE STEAMSHIP COMPANY LINES
STEAMSHIPS DE LUXE
CHESAPEAKE LINE

Between Baltimore, Old Point and Norfolk. Every week day and on Sundays, November 4, 18, and alternate Sundays following until further notice. Chesapeake Steamship Co.'s tickets will be honored on the Sunday nights they have no steamer by the Baltimore Steam Packet Co.

YORK RIVER

Between Baltimore, West Point, Richmond every night in the year except Sunday night. Our big new steamers, "City of Richmond," "City of Baltimore," "City of Norfolk" and "City of Annapolis," furnish the very best accommodations. Good meals, rooms with bath and all the comforts of home.

A. L. STEPHENS, Traffic Manager. H. R. BOWEN, General Passenger Agent.

BALTIMORE STEAM PACKET CO.

(OLD BAY LINE.)

Palatial Steel Steamers Between Baltimore and Norfolk, Portsmouth and Old Point, Va.

Steamers leave both ends of the line 6.30 P. M. every week day and on Sundays, Oct. 28, Nov. 11, 25, and alternate Sundays following until further notice.

Old Bay Line tickets will be honored on the Sundays they have no steamer by the Chesapeake Line.

Carry U. S. Mail. Special Meals and a la carte service.

RUNNING WATER AND HARDWOOD FLOORS in all staterooms, BRASS BEDS in double rooms, and METALLIC BERTHS with BRASS MOUNTINGS and FOLDING UPPER BERTHS in single rooms; PRIVATE BATHROOMS.

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Filling, Land Reclamation, Canals and Port Works

River and Harbor Improvements, Deep Waterways and Ship Channels

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Correspondence Invited from Southern Officials and Corporate and Private Interests Everywhere.

Largest Plant Longest Experience

Atlantic, Gulf and Pacific Co.

NEW YORK

HOUSTON, TEX.

INDUSTRIAL NEWS OF INTEREST

Contractors' Machinery, Rails, Etc.

The Arthur Daniels Company, capital stock \$10,000, has been organized with a New Jersey charter and has established offices at 921-922 Park Row Bldg., New York City, to conduct a general business in new and second-hand contractors' equipment, machinery, iron and steel scrap, wrecking and dismantling. A specialty will be made of new and second-hand pipe, pipe seconds, boiler tubes, couplings, fittings, re-laying rails, etc., for which it will also be in the market. Arthur Daniels is president and Samuel Elfenbein, secretary and treasurer. Mr. Daniels has been in business for himself at 103 Park Ave., New York, and Mr. Elfenbein was until recently secretary of the Marine Metal & Supply Co., 167 South St., in the same city, being connected with that concern for nearly fifteen years.

Opportunity for Experienced Men.

The Austin Manufacturing Co., Chicago, announces in another column that experienced operators of the Austin motor rollers, gyratory crushers, elevating graders and road machinery are wanted by the United States Government, which is shipping 60 of these rollers and a lot of the other machines to France, with probably many more to follow, and that good pay is offered to sound men of young or middle age to participate in the work of building roads for the army abroad. Accompanying the formal announcement is a coupon which may be filled in and sent to the proper army officer by anyone who desires to engage in this service.

Sale of Florence Company's Property.

The sale of the real and personal properties of the Florence Company, Florence, Mass., took place on October 17 and 18. There was a large attendance. There were 1376 separate items in the sale catalogue, of which 346 were disposed on the first day and the rest on the second. Lots 1 and 2 of the manufacturing real estate were bought by the J. Lipsitz Company of Chelsea, Mass., for \$9000; Lot 3 by H. Goodman & Sons of Springfield, Mass., for \$2500, and Lot 4 by Carlson & Berger of Northampton, Mass., for \$1750. The engine, boiler, underwriter's pump, etc., equipment brought \$2250. The outlying real estate totaled more than \$21,000, and all the personal property nearly \$22,000, so that the total sum realized from the sale is believed to be more than \$43,000. While there was some disappointment at the low price realized from the manufacturing real estate, the sale as a whole is said to have been very satisfactory to all interested. J. E. Conant & Co. of Lowell, Mass., were the auctioneers.

(Continued on page 88.)

Valuable to All Business Men.

The National Bank of Commerce in New York has issued a most valuable book of 170 pages on the War Revenue and Federal Income Tax Laws, its purpose being to provide for its friends and customers, in as usable form as possible, an authoritative text of these statutes which most vitally concern general business and banking. The two laws being presented in a single volume will enable the reader to readily determine his taxable status. Part I relates to the War Revenue Act and Part II to the Federal Income Tax Law. The book is most carefully prepared with marginal guide text to each section of the laws, and there are also comprehensive indexes to facilitate consultation. It is handsomely printed in large type on substantial paper, and it is of very convenient form for comfortable handling.

Wm F. Bockmiller, Pres.

John G. Hullett, Secy.

BALTIMORE OFFICE SUPPLY CO., Inc.

641 COLUMBIA AVE., BALTIMORE, MD.

Manufacturers of

Steel Die Embossed Stationery

Write for Samples and Prices

HEATING APPARATUS

For Schools, Churches, Dwellings and other buildings. The Peck-Hammond Furnaces are now controlled by us.

THE HAMMOND HEATING CO.,

Cincinnati, Ohio

THE HAMMOND HOTELS

THE HOTEL ESSEX

BOSTON, MASS.

Opposite South Terminal Station

EUROPEAN PLAN.

RATES MODERATE.

ABSOLUTELY FIREPROOF.

Free Transfer Baggage from and to Station. Terminal of Trains from South and West.

DAVID REED, Manager

Southern Minerals Corporation

Miners and Shippers
of

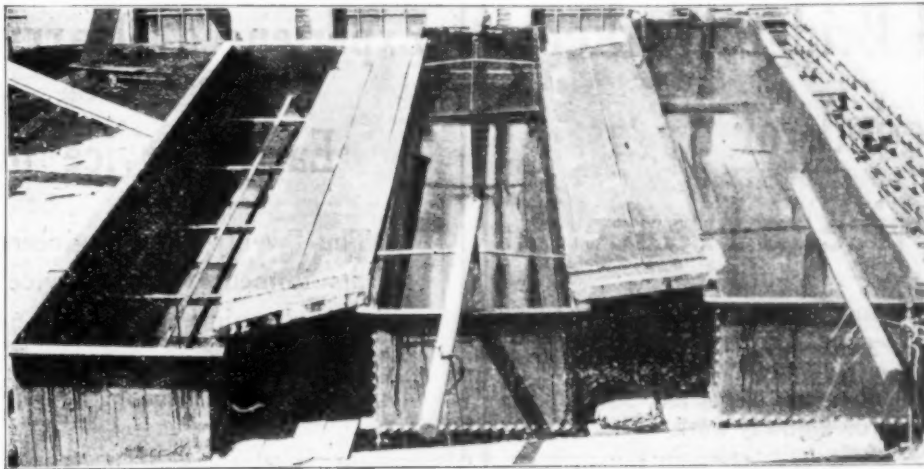
BAUXITE

MANGANESE

IRON

Properties: Elizabethton, Carter Co., Tenn.

Offices: 20 Beacon St., Boston, Mass.



Open-Tank Process creosoting plant erected by the Bryant Paper Company, Kalamazoo, Mich., under the direction of Mr. F. W. Sutherland, in operation for several years. All structural wood exposed to decay is creosoted by this mill.

Creosoted Wooden Roofs for Textile- and Paper-Mills are Economical and Durable

There has been much discussion, pro and con, on the advisability of using creosoted planking for roofs over weave-sheds of textile-mills and machine-rooms of paper-mills. To clarify the situation the following authorities are quoted, viz.:

Dr. Herman Von Schrenk,
St. Louis:

"The very severe humidity conditions, particularly in the weave-sheds, indicate that the use of untreated yellow pine will in many cases probably be impracticable, no matter how high the grade; in other words, untreated pine will doubtless fail by decay, due to the extraordinary conditions, in spite of the greatest care. This naturally leads to a discussion as to the possibility of artificially preserving the timbers, particularly the roof-planking. One naturally thinks first of all of creosote. An effective way of using creosoted planking would consist in covering the creosoted timber with sheathing, as there would be no possibility of creosoted planking decaying and the sheathing could be painted as often as necessary.

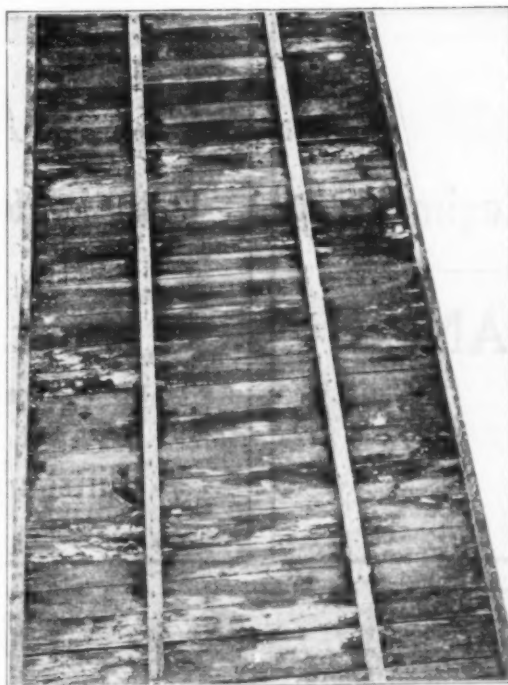
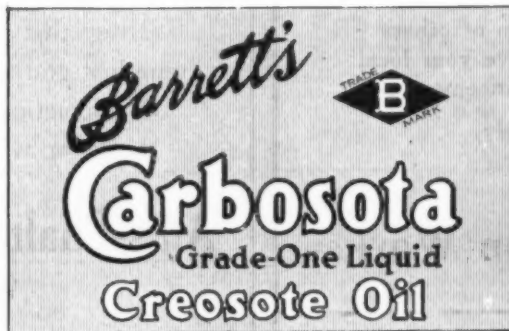
"One advantage of using some form of treated lumber would undoubtedly lie in the possibility of buying lower grades of yellow pine and treating the same. The lower-grade lumber could be bought for much less than the 'select structural' grade, and in its treated condition would serve every bit as well and possibly better than the untreated high-grade lumber in those rooms where the high humidity conditions make for extremely rapid decay."

(*Lumber World Review*, May 25, 1917, p. 26.)

F. J. Hoxie,

Engineer, Inspection Department, Associated Mutual Factory Fire Insurance Companies, Boston:

"A double roof is advisable to prevent the planks from rotting in the center, the outer planking BEING



A "close-up" of section of roof weakened to a danger-point due to decay of planking. (Courtesy American Lumberman.)

THOROUGHLY CREOSOTED and separated from the inner by mopped, tarred paper."

(*American Lumberman*, June 23, 1917, p. 41.)

F. P. Sheldon & Son,
Engineers and Architects,
Providence, R. I.:

"The roof should be made thick enough according to the accompanying curves to prevent the occurrence of condensation upon its under surface. Secondly, it should be protected against decay by proper preservative treatment."

(*Engineering News-Record*, July 5, 1917, p. 29.)

Creosoted wood does not increase the fire-hazard. When thoroughly seasoned after treatment it will not ignite more readily than untreated wood, and in fact treatment with creosote tends to retard combustion.

Lumber creosoted by the Open-Tank System with a proper grade of refined coal-tar creosote oil will not bleed or exude oil when exposed to temperatures prevalent in machine-rooms of paper-mills and weave-sheds of cotton-mills.

CARBOSOTA — Grade-One Liquid Creosote Oil is derived from pure coal-tar and refined especially for use by the Brush Method and in the Open-Tank System of treatment. It is universally recognized as the *standard* and specified by the largest consumers.

(Note: It is necessary that all wood to be treated by the Brush or Open-Tank methods should be seasoned until air-dry.)

Booklet regarding the CARBOSOTA treatment free upon request.

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Vancouver

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Halifax, N. S.

Sydney, N. S.

Experienced Bridge Workers Needed for Early Service in France

The Twenty-third Engineers, National Army, wants immediately for service in France 10,500 highway engineers, road contractors, superintendents, foremen, operators of contractors' plants and others who have had experience on highway work.

Men who can run steam shovels, road rollers, motor trucks, tractors, pumps, gasoline and similar plants are especially needed. There are a number of good openings also for experienced highway foremen and master mechanics.

Offer your services—if you are within the age limits and physically fit.

Bring this notice to the attention of others—whether you are eligible or not. Have your local newspaper reprint the editorial announcement.

Quick action is absolutely necessary,

Write or wire today.

Virginia Bridge & Iron Works
Roanoke, Virginia

Experienced Quarrymen Needed — FOR — Early Service in France

The Twenty-third Engineers, National Army, wants immediately for service in France 10,500 highway engineers, road contractors, superintendents, foremen, operators of contractors' plant and others who have had experience on highway work.

Men who can run steam shovels, road rollers, motor trucks, tractors, pumps, gasoline engines and similar plant are especially needed. There are a number of good openings also for experienced highway foremen and master mechanics.

Offer your services—if you are within the age limits and physically fit.

Bring this notice to the attention of others, whether you are eligible or not.

Quick action is absolutely necessary.

Write or wire today.

Allis-Chalmers Manufacturing Co.
West Allis, Wisconsin

TO JOIN The Road Builders' Regiment — FOR — SERVICE IN FRANCE

Fill Out
This Form



ROAD BUILDERS Enlist for Immediate Service in France

WRITE TO

23rd Engineers, National Army
1419 F Street Washington, D. C.

Pittsburgh-Des Moines Steel Co.

Fill in by typewriter if possible and MAIL TODAY to

COMMANDING OFFICER, 23RD ENGINEERS, NATIONAL ARMY,
1419 F Street, Washington, D. C.

- (1) Name..... (2) Address.....
(3) Age..... (4) Nationality.....
(5) Married or single?..... (6) Have you been called in the draft?.....
(7) Will you enlist for period of the war?.....
(8) State briefly your road-building or other construction experience.....
(9) What machinery can you operate?.....
(10) Your present or a former employer must certify to your qualifications by signing here.....

SIGNATURE OF EMPLOYER.

EMPLOYER'S ADDRESS FOR TELEGRAMS.

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particularly BRIDGES AND BUILDINGS*

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| Cincinnati, Ohio | Union Trust Building |
| Atlanta, Ga. | Candler Building |
| Cleveland, Ohio | Guardian Building |
| Detroit, Mich. | Beecher Ave. & M. C. R. R. |
| CHICAGO, ILL. | 208 South La Salle Street |
| St. Louis, Mo. | Third National Bank Building |
| Denver, Colo. | First National Bank Building |
| Salt Lake City, Utah | Walker Bank Building |
| Duluth, Minn. | Wolvin Building |
| Minneapolis, Minn. | 7th Ave. & 2nd St., S. E. |

Pacific Coast Representative:
U. S. Steel Products Co. Pacific Coast Dept.
SAN FRANCISCO, Cal. Rialto Building
Portland, Ore. Selling Building
Seattle, Wash. 4th Ave. So., Cor. Conn. St.

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10,500 Highway Construction Men

Wanted for SERVICE IN FRANCE

Obtain particulars from
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23rd Engineers, National Army
1419 F Street
Washington, D. C.

Call to the Colors with the United States Army in France

To Experienced Operators of

AUSTIN

MOTOR ROLLERS
GYRATORY CRUSHERS
ELEVATING GRADERS
ROAD MACHINERY

Uncle Sam is shipping sixty Austin motor rollers and a big lot of Austin crushers, graders and other machinery to France with probably much more to follow.

He wants experienced men to operate these machines and offers most attractive inducements. Forty to ninety-six dollars per month and expenses.

A chance for sound men of young or middle age to serve their country building roads as officers in the United States Army.

HERE IS YOUR OPPORTUNITY. DUTY, HONOR
AND GLORY ALL CALL YOU. DON'T MISS IT

Fill out and mail coupon at right or send for particulars to

AUSTIN MANUFACTURING COMPANY
CHICAGO

Commanding Officer, 23d Engineers, National Army, 1419 F Street, Washington, D. C.

(1) Name (2) Address
(3) Age (4) Nationality
(5) Married or single (6) Have you been called in the draft?
(7) Will you enlist for period of the war?
(8) State briefly your road-building or other construction experience
(9) What machinery can you operate?
(10) Your present or a former employer must certify to your qualifications by signing here
Signature of employer Employer's address for telegrams
(Austin Mfg. Co. advertisement in Manufacturers Record, October 25, 1917.)

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Detailed classification of specialized work undertaken by those
having cards in this Directory will be found in Classified Index.

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Railroad and Municipal Engineering
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All Classes of Concrete and Steel Construction

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We help you raise the capital, build the plant and run it successfully. We make a specialty of Southern plants.

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Mill Architect and Engineer

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Textile Mills and Water Power Developments

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Your card in the professional directory of the Manufacturers Record—for 35 years the leading exponent of Southern development—will keep your special line of work before the men who are in active charge of the South's industrial affairs.



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Engineers ATLANTA, GEORGIA

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Southern work only. Have built over half of the Water, Light and Sewer Systems in Georgia and Alabama. We Design—Finance—Superintend. Bonds Purchased.

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Consulting and Research Chemists.
Analyses and Reports made in all Branches of Industrial Chemistry. Raw Materials and Waste Products studied and reported upon. Experimental work.
Office and Laboratory, 210 S. 13th Street; Experimental Laboratory, Chestnut Hill,
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INDUSTRIAL NEWS OF INTEREST

(Continued from page 82.)

W. H. Bramman's New Position.

The Walter A. Zelnicker Supply Co., St. Louis, Mo., recently secured the services of W. H. Bramman, who is acting as assistant to the president. Before being associated with the Zelnicker Supply Co., Mr. Bramman was connected with the American Carbon & Battery Co.

To Deal in Iron and Steel Products.

It is announced that the Greene-Wolf Company, Inc., Hudson Terminal Building, New York City, is organized to conduct a general business in iron and steel products, including wrought iron and steel pipe, tubular goods and structural shapes. D. Greene is president and G. Wm. Wolf, secretary-treasurer, both of whom were formerly with the Eagle Pipe Supply Co., Inc., the first as secretary. M. J. Baumgarten is vice-president.

Timely and Valuable Waterproofing.

"Preservo" is the name of a preparation which is of particular value at this time for the waterproofing and preservation of canvas because of the scarcity and high cost of cotton duck. It is especially to be desired on canvas used for protecting cotton in temporary storage, as it affords an economical and complete safeguard against the effects of stormy weather. This preservative is easily applied with a broad brush, and it may be employed effectively on either old or new canvas, which it makes watertight. It is manufactured by the Robeson Preservo Products Co., Port Huron, Mich., which is represented in 14 Southern cities.

TRADE LITERATURE

An Appropriate Tribute.

The annual meeting of the Ransome Concrete Machinery Co., held recently at the Dunellen plant, Dunellen, N. J., and the Queen City Hotel, Plainfield, N. J., was distinguished by the issue of a handsomely-prepared booklet which included, besides the menu of the annual dinner, a fine tribute to the memory of the founder of the company, Ernest L. Ransome, who died last spring, this being accompanied by a splendid photographic likeness of him. There are also a number of patriotic songs and anthems, including the Star-Spangled Banner.

A Valuable Du Pont Booklet.

There has just been issued a handy booklet giving a list of all products made by the E. I. du Pont de Nemours Company and its associated companies, namely, the Du Pont Chemical Works, the Du Pont Fabrickold Co., the Arlington Company and Harrisons, Inc. This publication does not show who uses these products or how they are used, as does the Du Pont Products Book, but it will prove of interest and value to many business men in both mercantile and industrial lines. It is handy for the pocket, and will be sent to any address if requested from the home office at Wilmington, Del.

Varnishes and Lacquers for Military Use.

"How to Recognize the Arms of the Service." In the national colors, red, white and blue, Berry Brothers, Inc., makers of varnishes, Detroit, Mich., has issued an attractive folder describing and illustrating military insignia. These devices, it is further stated, are treated with lacquers of this make to prevent them from tarnishing. The finish on many of them in the various shades of bronze, or in black, is also produced with a special kind of lacquer or varnish. Large quantities of finishing material are supplied for these and similar purposes. A book on varnish and wood finishing will also be sent if requested.

Quick Work Filling Orders.

With the heading, "A Little Story About Service," the Cannerton Sewer Pipe Co., Cannerton, Ind., has issued a mailing card, saying that at 9:30 A. M. on August 9 one of the United States Government's contractors called on it for five carloads of pipe, with instructions to ship quickly. The cars were loaded by 3:30 P. M. and switched from the manufacturers' yards at 5:45 P. M. the same day, and were delivered on track at Camp Zachary Taylor, 10 miles south of Louisville, Ky., at noon the following day, only 26 hours after the order was received. Because of this promptness the company has received additional orders from the same contractors.

About the Snow Oil Pumps.

Bulletin No. 8-112 of the Worthington Pump & Machinery Corporation, 115 Broad-

way, New York, is devoted to the Snow oil pumps. These pumps, of the duplex piston pattern, are made of several capacities, viz., for pressures not exceeding 150 pounds for general service, then the valve plate style for pressures not exceeding 500 pounds, next the valve pot style for pressures from 500 to 800 pounds, then the Snow oil line pressure pump for pressures from 500 to 600 pounds regularly or shock pressures up to 800 pounds, and finally the Snow standard pattern oil line pressure pump of the pot valve plunger style for 2000 pounds pressure. These are all illustrated and described, as is the Worthington duplex piston oil meter.

"Sterling" Ice and Refrigerating Machines.

The United Iron Works Co., Springfield, Mo., has issued Catalogue No. 267, covering its line of "Sterling" refrigerating and ice-making machinery. In the preparation of this publication the company has endeavored to make it as concise as possible for use to some extent instead of bulletins heretofore employed, but at the same time to permit it to dwell upon all of the apparatus that may be employed by all users of ice manufacturing and refrigerating equipment. The company announces that it preserves a complete record by serial number and drawings of every machine which it builds, so that replacements and repairs can be accomplished at any time without delay. The book is finely illustrated, and the presswork is of the best character. Tables and other data add to its completeness.

Acid-Proof Towers, Etc., For Fertilizer Makers.

The B. Millin Hood Brick Co., Atlanta, Ga., has issued two bulletins relating to its products. Both are illustrated. One concerns the fertilizer plant Glover tower, built of Hood's chemical brick and acid-proof cement, which, it is said, improves with time and resists the action of niter. This type of construction has been successfully used for from four to twelve years at seven places in this country and in Europe. Another page refers to Glover and Gay Lausa towers, built of acid-proof masonry, lined with double-thick Hood's "Pottery" acid-proof tiles and packed with Hood chemical rings. The battery of seven concentrators built of the same materials is also pictured. The Chemical Construction Co. was the engineer and contractor for each. The other bulletin relates to spiral chemical rings, also made by this company for scientific tower packing. Acid-proof blocks and rings made by the German process are likewise illustrated.

"Climax" Geared Locomotives.

The Climax patent geared locomotives are described in Catalog K of the Climax Manufacturing Co., Corry, Pa., a handsome book which has just been issued. These engines have distinct features which make them more than ordinarily efficient in lumber operations, coal mines, fire-clay banks, stone quarries and other lines of industry, being especially designed for meeting the requirements of unusual transportation conditions. "They are reliable and economical in maintenance," says the builder, "giving long service with little attention on roads constructed of light rails, or where the roadbed is rough or uneven, or has steep grades and sharp curves, on account of their special design and the superior quality of material used in their construction. * * * They are built for any gauge of track, either of steel or wood." The illustrations show the regular stock sizes built, which meet a wide range of requirements.

A Superior Full-Revolving Shovel.

The "Type B Erie Shovel," built by the Ball Engine Co., Erie, Pa., is fully described as to specifications, etc., in a new book just issued by the builders. In this standard type three-quarter yard full revolving shovel, traction or car wheels are interchangeable on the same truck frame. "In every detail of material and workmanship," says the book, "the shovel will be built to an unequaled high standard, with the object of producing the best revolving shovel on the market. All materials will be carefully selected and tested, superior in quality to the materials usually employed, and particularly adapted to the requirements. All parts will be made to gauge and carefully inspected. All parts subject to wear will be manufactured on the interchangeable duplicate plan. They will be machined to jigs, gauges and templates, insuring absolute uniformity. The diagrams and other illustrations in the book are of superior execution, and the reading matter is fully explanatory.

PROPOSALS

BOND ISSUES

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More Southern Proposal Advertising Is Printed In The Manufacturers Record Than In Any Other Paper

Bids close November 3, 1917.

PROPOSALS FOR STEEL CABLE, CAST-iron Pipe, Condenser Pipe, Nails, Dowel Pins, Bolts, Steel Balls, Cable Thimbles, Spelter, Nuts, Copper Gauge, Bolt Lacing, Brass Chain, Hose Clamps, Hose Couplings, Cup Hooks, Hinges, Drawer Pulleys, Gongs, Flue Cleaners, Pouring Ladders, Funnels, Sprinkling Cans, Oil Cans, Car Locks, Seine Floats, Salt Cellars, Cleavers, Ice Tongs, Griddles, Butchers' Blocks, Chair Seats, Welding Spectacles, Transfer Cases, Paper Clips, Erasers, Memorandum Books, Glue, Life Preservers, Lanyards, Sandpaper, Port-hole Glasses, and Window Glass. Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 A. M. November 3, 1917, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and information relating to this Circular (No. 117) may be obtained from this office or the office of the Assistant Purchasing Agents, 24 State Street, New York City, and Audubon Building, New Orleans, La.; also from the United States Engineer Offices in the principal cities throughout the United States. **BENEDICT CROWELL, Major, E. O. R. C., U. S. Army, General Purchasing Officer.**

Bids close November 13, 1917.

PROPOSALS FOR STEEL, BOILER Tubes, Chain, Poultry Netting, Steel Wire, Sheet Copper, Brass Tubing, Shackles, Screws, Grommets, Cotter's, Dies, Cable Clips, Screw Eyes, Hinges, Locks, Door Bolts, Latches, Bed Knobs, Casters, Hose Nozzles, Belt Lacing, Tool Handles, Cars, Rooms, Brushes, Tackle Blocks, Binnacles, Grindstones, Push Carts, Garbage Cans, Buckets, Oilers, Lanterns, Lamp Chimneys, Lantern Globes, Window Glass, and Glass Table Tops. Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 A. M. November 13, 1917, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and information relating to this circular (No. 1178) may be obtained from this office or the offices of the Assistant Purchasing Agent, 24 State Street, New York City; Audubon Building, New Orleans, La.; and Fort Mason, San Francisco, Cal.; also from the United States Engineer Offices in the principal cities throughout the United States. **BENEDICT CROWELL, Major, E. O. R. C., U. S. Army, General Purchasing Officer.**

Bids close November 8, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., October 16, 1917. Sealed proposals will be opened in this office at 3 P. M. November 8, 1917, for furnishing and installing lighting fixtures in the United States Postoffice at Berlin, N. H.; Burlington, Wis.; Cameron, Tex.; Charleston, Iowa; Fort Morgan, Colo.; Frederick, Md.; Hammond, La.; Hiawatha, Kans.; Madison, S. Dak.; Maquoketa, Iowa; Marion, Ky.; Martins Ferry, Ohio; Martin, Tenn.; Media, Pa.; Mena, Ark.; Pulaski, Va.; Reading, Mass.; Richfield, Utah; Saguana, Ill.; Statesboro, Ga.; Wahoo, Neb.; Wematche, Wash.; the United States Postoffice and Courthouse extension at East St. Louis, Ill.; and the Postoffice and Courthouse extension at Huntington, W. Va., in accordance with drawings and specifications, copies of which may be had at this office. Proposals are desired only from those qualified to produce work of the highest grade, both artistically and mechanically, and the right is reserved to refuse to send the drawings and specifications to or to receive proposals from anyone who, in the opinion of the Supervising Architect, is not so qualified. **JAS. A. WETMORE, Acting Supervising Architect.**

Bids close November 27, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., October 17, 1917. Sealed proposals will be opened in this office at 3 P. M. November 27, 1917, for the construction of the United States Postoffice at Chapel Hill, N. C. Drawings and specifications may be obtained from the custodian of the site at Chapel Hill, N. C., or at this office, in the discretion of the Acting Supervising Architect. **JAS. A. WETMORE, Acting Supervising Architect.**

Bids close November 23, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., October 12, 1917. Sealed proposals will be opened at this office at 3 P. M. November 23, 1917, for the construction of the United States Postoffice at Woodbury, N. J. Drawings and specifications may be obtained from the custodian of the site at Woodbury, N. J., or at this office, in the discretion of the Supervising Architect. **JAS. A. WETMORE, Acting Supervising Architect.**

Bids close November 12, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., October 12, 1917. Sealed proposals will be opened in this office at 3 P. M. November 12, 1917, for the construction, complete, of two additional dolphins and the furnishing and installing, complete, of thirty-two spring buffers at the wharf of the Quarantine Station at Tampa Bay, Florida. Drawings and specifications may be obtained from the Custodian at Tampa Bay, Florida, or at this office, in the discretion of the Acting Supervising Architect. **JAS. A. WETMORE, Acting Supervising Architect.**

PROPOSAL ADVERTISING INFORMATION

RATE: 25 cents per line per insertion.

PUBLICATION DAY: Thursday.

FORMS CLOSE 9 A. M. Wednesday. Copy received later cannot be published until issue of following week.

NIGHT LETTER: When too late to send copy by mail to reach us by 9 A. M. Wednesday, forward by night letter.

THE DAILY BULLETIN OF THE MANUFACTURERS RECORD:

Published every business day; gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened, or when daily publications are necessary to meet legal requirements.

The same rate applies—25 cents per line per insertion.

Bids close November 6, 1917.

PROPOSALS FOR ASPHALT SHINGLES, and Roofing Nails. Sealed proposals will be received at the Office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 A. M. November 6, 1917, at which time they will be opened in public, for furnishing the above-mentioned material. Blanks and information relating to this Circular (No. 1179) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City, and Audubon Building, New Orleans, La.; also from the U. S. Engineer Office in the principal cities throughout the United States. **BENEDICT CROWELL, Major, E. O. R. C., U. S. Army.**

Bids close October 30, 1917.

\$175,000 5% Bonds

The Board of Commissioners of the Lake Long Drainage District, Iberville Parish, La., offers for sale and will receive bids at the office of said Board, at the Courthouse, at Plaquemine, La., up to 11 A. M. Tuesday, October 30, 1917, for the sale of:

A.—600 bonds of \$100 each of the LAKE LONG DRAINAGE DISTRICT, bearing date September 1, 1917, with 5 per cent interest per annum from date, payable semi-annually on March 1st and September 1st of each year, maturing as follows: 15 bonds each year, September 1, 1918, 1919 and 1920; 17 each year, September 1, 1921, 1922 and 1923; 20 each year, 1924, 1925, 1926 and 1927; 21, 1928; 22 each year, 1929, 1930 and 1931; 23, 1932; 25 each year, 1933 and 1934; 29, 1935; 30, 1936; 31, 1937; 32, 1938; 33, 1939; 34, 1940 and 1941, and 35, 1942, predicated on an ad valorem tax.

B.—\$115,000 bonds of the Lake Long Drainage District running through a period of 25 years, payable at such times as the Board of Commissioners may determine, bearing interest at the rate of 5 per cent. per annum, payable semi-annually, predicated on a tax of 25 cents per acre, commencing with 1917.

Bids may be made for either or for both lots of said bonds, and all bids will be opened in public at the hour mentioned.

The Board reserves the right to reject any and all bids.

Plaquemine, La., Sept. 27, 1917.

EDWARD J. GAY, President.

JOSEPH A. GRACE, Secy. and Treas.

Bids close November 7, 1917.

\$12,500 Serial Bonds

Sealed proposals will be received by the Board of Education of Richmond County, North Carolina, until 12 o'clock M. on November 7, 1917, at Rockingham, N. C., for the purchase of \$12,500 serial bonds, to bear interest not to exceed 6 per cent. per annum, of School District No. 4 in Mineral Springs Township, Richmond County, North Carolina. Certified check in sum of \$250 must accompany each bid as evidence of good faith.

The right to reject any or all bids is expressly reserved by said Board.

This the 2d day of October, 1917.

L. J. BELL,
County Superintendent of Schools.

Bids close November 5, 1917.

\$60,000 Road Bonds

Corinth, Miss., October 15, 1917.

The Board of Supervisors of Alcorn County, Miss., will sell \$60,000 of Corinth-to-the-Gulf Road District Bonds, not to exceed 6 per cent. interest, payable semi-annually, 25 years, November 5, 1917.

Done by order of the Board.

O. M. HINTON, Clerk.

Bids close November 2, 1917.

Concrete Viaduct

Richmond, Va.

Sealed proposals will be received at this office until 12 o'clock noon November 2, 1917, for the construction of a reinforced concrete viaduct over Bacon Quarter Branch and Seaboard Air Line Co.'s property on the Chamberlayne Avenue extension, as per plans and specifications prepared by Carneal & Johnston, Architects. Parties proposing to bid will apply to the undersigned for plans and specifications.

Forms of proposals can be obtained on application.

A certified check for \$1000 must accompany each bid as a guaranty of execution of contract. The Administrative Board reserves the right to reject any and all bids.

CHAS. E. BOLLING,
City Engineer.

Bids close November 1, 1917.

Two Steel Bridges

Sealed proposals will be received until noon November 1, 1917, by the Board of Supervisors of Prince George County at Prince George Court House, Va., for the construction of two steel bridges over Black Water Swamp on New Road, near Disputanta, Va. Specifications can be seen at the office of the Clerk of the Court until that date. Bids must be addressed to Board of Supervisors, Prince George County, and endorsed "Bids for Bridges at Disputanta." The Board of Supervisors reserve the right to reject any or all bids. Each bid must be accompanied by a check in the sum of \$200, made payable to the Board of Supervisors of the County of Prince George, as evidence of good faith on the part of the bidder. The said check must be certified to be good by the bank on which it is drawn. The check of the unsuccessful bidders will be returned, but the check of the successful bidder will be held until the contract has been executed by the bidder.

Plans and specifications can be seen at the office of the Clerk of the Court of the County of Prince George.

R. D. RUDD,
Engineer.

Bids close November 7, 1917.

Drainage Canals

The Board of Supervisors of the Bunnell Drainage District will receive bids at their office, Bunnell, Flagler County, Florida, until 12 o'clock noon, November 7, A. D. 1917, for the construction of ten main canals, the total lengths of which aggregate 39.83 miles, requiring excavation of material estimated at 636,367 cubic yards.

Each canal to be bid on separately and the bid to include clearing of right of way, constructing road bridges, diverting dams or levees, deflectors, etc., that are called for in the specifications.

A certified check of 5 per cent. of the amount of each bid, payable to the undersigned Board of Supervisors as a guarantee that if the bid is accepted contract will be entered into and its performance secured by a bond of 10 per cent. of the total estimate of each bid at the time of signing the contract.

The right is reserved to reject any and all bids.

Maps, profiles, plans and specifications may be examined at the office of the Chief Engineer, Peter Kendrick, Bunnell, Fla., where additional copies of the maps, profiles, plans and specifications may be obtained by prospective bidders upon the payment of ten dollars (\$10.)

Bidders shall make alternative bids, lump sum for all said work in each canal, and for excess cubic yard excavation above that estimated, or by the cubic yard.

The type of the machine the contractor expects to use on the work shall be specified in the bid.

BOARD OF SUPERVISORS,
BUNNELL DRAINAGE DISTRICT,
By PETER KENDRICK,
Chief Engineer.

Bids close November 7, 1917.

Drainage Canals and Ditches

The Board of Supervisors of the Bimini Drainage District will receive bids at their office, Bunnell, Flagler County, Florida, until 12 o'clock noon, November 7, 1917, for the construction of 11.6 miles of drainage ditches or canals.

CONTRACT No. 1.

Water Oak Canal—Length about 6 miles, bottom width at head 12 feet, bottom width at outlet 24 feet; slopes 1 to 1, requiring an excavation estimated at 117,000 cu. yds. right of way, head 70 feet, outlet 75 feet wide; road bridges will be required to be constructed at estimated cost of \$150 each; cost of clearing of right of way to be also included in bid.

CONTRACT No. 2.

(1) Water Oak Stub Canal—Length 3000 feet, bottom width 10 feet, slopes 1 to 1, right of way 40 feet, spoil bank to be on north side of canal, required excavation estimated at 2754 cu. yds.

(2) West Levee and Ditch—Length 12,800 feet, bottom width 10 feet, slopes 1 to 1, right of way 40 feet, small key ditch under spoil bank and bank graded to form a levee on north side of ditch, required excavation estimated at 5756 cu. yds.

(3) East Levee and Ditch—Length 4900 feet, bottom width 10 feet, slopes 1 to 1, right of way 40 feet, small key ditch to be dug under spoil bank and the bank graded to form a levee on north side of the ditch, required excavation estimated at 5918 cu. yds.

(4) Junction Canal—Length 5250 feet, bottom width 14 feet, slopes 1 to 1, right of way 60 feet, required excavation estimated at 13,250 cu. yds.

(5) Saplings Levee and Ditches—Required fill estimated at 2536 cu. yds., to be graded on top for roads, small key ditch under bank to form levee, length 3500 feet, material to be secured from ditches 10 feet wide each, dug on each side of levee; cost of clearing right of way to be included on bid for all work in Contract No. 2.

NOTICE TO DRAINAGE CONTRACTORS.

All bids must be accompanied by a certified check for 5 per cent. of bid, payable to undersigned Board of Supervisors as a guarantee that if the bid is accepted contract will be entered into and its performance secured by a bond of 10 per cent. of the total amount of bid at the time for signing the contract.

The right is reserved to reject any and all bids. Maps, profiles, plans and specifications may be examined at the office of the Chief Engineer, Peter Kendrick, Bunnell, Fla., where additional copies of maps, profiles, plans and specifications may be obtained by prospective bidder upon the payment of \$5.

Bidders shall make alternative bids, lump sum for all said work and for any excess cubic yard excavation, above estimated, or by the cubic yard, including cost of clearing right of way.

BOARD OF SUPERVISORS,
BIMINI DRAINAGE DISTRICT,
By PETER KENDRICK,
Chief Engineer.

Bids close November 5, 1917.

Sewer Construction

Sealed proposals on blank forms furnished by the city, and addressed to the Mayor and Councilmen of Spartanburg, S. C., will be received until 4 P. M. November 5, 1917, for furnishing all material and labor for constructing sanitary sewer extensions and intersecting sewer at Spartanburg, S. C., as per plans and specifications adopted.

It is expected to extend the same class of work to the amount of \$40,000.

The right is reserved to reject any or all bids.

Plans and specifications can be seen at office of the City Engineer, Spartanburg, S. C., and specifications will be mailed upon application to J. H. Shores, Superintendent of Streets.

J. F. FLOYD,
Mayor,
O. T. GALLMAN,
Councillman.

Bids close December 1, 1917.

Courthouse, Jail, Etc.

Glenville, W. Va.

The County Court of Gilmer County, West Virginia, will receive sealed bids at 3 P. M. December 1, 1917, for the erection of a courthouse, jail and jailer's residence according to plans and specifications made by A. F. Wyson, Architect, Princeton, West Virginia. Each bidder will be required to enclose a certified check with his bid in the amount of \$500 to guarantee to enter into a contract with the Court and to deliver a good and sufficient bond in a penalty equal to the amount of the bid.

The Court reserves the right to reject any or all bids submitted.

Plans and specifications may be obtained from the office of the said architect.

N. E. RYMER,
Clerk of said Court.

Classified Opportunities

MINERAL AND TIMBER LANDS WATER POWERS MISCELLANEOUS PROPERTIES

W. WALKER WARE, TOANO, VA.
Headquarters for first-class real estate, truck farms, timbered land, clubhouses and hunting preserves, situated in Tidewater Virginia; 37 miles from Richmond; 37 miles from Newport News. Write for what you want.

FOR SALE—8000 acres coal land in Marion County, Alabama, in Township 12 South, Range 11 West, of the Black Creek seam, and will carry 4000 tons to the acre and above, according to the engineer's report. Vein from 22 to 36 inches in thickness. Analysis as follows:

| Moist- | Vol. | Fixed | British |
|--------|---------|---------|----------|
| ure. | Matter. | Carbon. | Sulphur. |
| 2.75 | 39.60 | 56.15 | 1.50 |
| | | | .69 |

Price very low; easy terms. I have also farm lands and brown iron ore lands for sale at big bargains. J. E. Penney, 211-12 Chamber of Commerce Bldg., Birmingham, Ala.

FOR SALE? Farm, timber land, mineral property or any other? We can help you get in touch with possible purchasers by an advertisement in these columns. For rates see head of this department.

FELDSPAR, mica, manganese, iron ore, timber land, farming land, orchards, pyrites, magnetic iron ore land, \$1.25 per acre up, for sale. W. A. Pedigo, Roanoke, Va. With Stras & Persinger.

FOR SALE—Farm consisting of four million feet of best timber, 80 H. P. water power, 300 acres of good tillable land. Address Mrs. Geo. A. Searcy, Tuscaloosa, Ala.

5000 ACRES, underlaid with coal. Fine agricultural land and good hunting; 15 miles from Richmond, Va. Twenty dollars per acre. R. B. Chaffin & Co., Inc., Richmond, Va.

GRAPHITE

200 ACRES of fine graphite land in Coosa County, Ala.; according to engineer's report the best in State. If interested, address J. F. Winter, Birmingham, Ala.

For Sale

GRAPHITE PROPERTY.

R. M. Ledford, Franklin, Macon County, North Carolina.

KAOLIN

FOR SALE or will consider capital to work it, 276 acres kaolin, one mile from railroad; 50 acres of this 12 feet thick, uncovered. P. O. Box 22, Estill, S. C.

ASBESTOS

GROUND ASBESTOS FOR SALE. Samples on request. Asbestos Mining and Mfg. Co., Stony Point, N. C.

PHOSPHATE ROCK

FOR SALE—Two million tons of blue rock phosphate in the ground near Mt. Pleasant, Tenn., running from 58 to 72 per cent. bone phosphate of lime; spur of the L. & N. R. R. runs through it; located in the Government nitrate plant at Mussel Shoals, Ala., makes the property more valuable; Mussel Shoals is only 60 miles from Mt. Pleasant. Major W. N. Hughes, U. S. A., 523½ Broadway, Nashville, Tenn.

MANGANESE ORE LANDS

750 ACRES MANGANESE ORE LANDS for sale; engineer's estimate, 800,000 tons; railroad one mile; now mining with pick and shovel; analysis and records available. Address Doak Aydelott, Tullahoma, Tenn.

GRANITE QUARRY

FOR SALE—Granite quarry, completely equipped and running every day. Contracts that will last the rest of the year; more demand for stone than we can deliver. Reason for sale, junior member has to go to war. Address No. 469, care Manufacturers Record.

COAL LANDS

VALUABLE COAL LANDS FOR SALE
We offer for sale for a customer, one tract of 20,000 acres of valuable Kentucky coal property at \$25 per acre. Furnish references when answering this. Wire or write—Southern Machinery Exchange, Somerset, Ky.

TIMBER FACTORS AND ESTIMATORS.
TIMBER FACTORS AND ESTIMATORS.
C. A. SANBORN,
Successor to
SANBORN & GEARHART.
International Timber Lands Investigation
a Specialty.
American Natl. Bank Bldg., Asheville, N. C.

TIMBER LAND

FOR SALE—17,000 acres timber land, estimated to cut 2000 to 2500 feet an acre; 25 miles of Tampa. Price, \$5 an acre. Address J. F. Stebbins, Zephyrhills, Fla.

OAK AND GUM HARDWOODS, L. L. virgin pine timber in large and small tracts, cut-over pine lands. D. R. Petet, 221 City Bank Bldg., Mobile, Ala.

RATES AND CONDITIONS

Rate 25 cents per line per insertion. Minimum space accepted, four lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 23c. per line; 300 lines, 21c. per line; 500 lines or more, 20c. per line.

TIMBER LAND

VIRGIN LONG-LEAF YELLOW PINE TIMBER LANDS, LOCATED IN FLORIDA.

For sale, direct from the owners, who purchased years ago, and who have placed on the market at prices to move promptly: 12,730 acres, in solid body, three miles' frontage on railroad; fee-simple. Price \$9 per acre.

13,650 acres, three miles' frontage on railroad; all timber privileges. Price \$7 per acre. 22,000 acres, solid body, several miles' frontage on railroad, no timber being farther from railroad than 6 miles; fee-simple. Price \$11 per acre.

100,000 acres, solid body, traversed by railroad; none of the timber over 6 miles from railroad; fee-simple. Price \$9.50 per acre, or timber lease \$7.50 per acre.

Lands valuable for grazing, also for horticultural and agricultural purposes after timber is removed.

Suitable for turpentine, crosstie and sawmill purposes.

Titles to all above properties perfect.

If you are interested as a buyer or a direct representative of a buyer, write for full particulars. Albert Fendig & Co., Brunswick, Ga., and Jacksonville, Fla.

FOR SALE—2000 acres, original-growth timber, 75 per cent. white oak, balanced red oak, etc.; lies in West Virginia, seven miles from N. & W. Railroad; 17,000,000 feet; a fine lot of ship timber; one of the best tracts left in the State. Will make reasonable terms. Price, \$52,000. F. M. Hughson, Roanoke, Va.

640 ACRES of good timber. Gold exists and has been taken from the property in paying quantities in a primitive way. Timber of fine quality and estimated at three to four million feet. \$25,000. R. B. Chaffin & Co., Inc., Richmond, Va.

FOR SALE—Several tracts virgin pine timbered lands. Petteway Investment Co., Tampa, Fla.

FOR SALE—Ten thousand acres timber land. J. C. Cole, Canton, N. C.

FOR SALE—6000 acres of virgin forest in Western North Carolina, carrying an average of 15 cords of acid wood and 5 cords of tan bark and 5000 ft. of merchantable lumber to the acre. Railroad facilities will be in the center of the property within eight months. For particulars address S. A. Jones, care of Navarre Hotel, New York City, N. Y.

10,000 ACRES cut-over pine lands, 6000 acres pine timbered lands, 24-crop turpentine farm. Yearwood Naval Stores Co., Ft. Meade, Fla.

FOR SALE—10,050 acres timber, Sou. Arkansas, on R. R. and river. No overflow. Cut 60,000,000 ft. or over. Mostly oak. It is fine. H. T. Buie, Buffalo, Ark.

TIMBER

40 MILLION FEET of the highest grade stumpage in the South (75% red gum, balance cypress, oak, pine, poplar and hickory), located on a navigable river in South Carolina, within 2½ miles of Atlantic Coast Line Railway and but 6 miles therefrom at farthest point. An extra good logging proposition, with 14 years for removal of timber. Only principals need apply. Address No. 4041, care Manufacturers Record, Balto., Md.

FOR SALE—Timber on 1055 acres of Burbank Sugar Tree Grove Farm, South Mills, Henderson County, Kentucky; Mt. Vernon road, 5 miles from Alzey, on Ohio River; 7 miles from Corydon, on railroad. Will cut 9,639,330 ft., breast high, board measure, expert estimate. Mostly oak, cypress, hard maple, some black walnut, ash, elm, yellow poplar, hickory, etc. (27 different species of forest trees). Address A. T. Burbank, 319 Elm Street, Henderson, Kentucky.

15,000,000 FEET VIRGIN TIMBER in Caroline County, Va. As fine as grows. Will cut anything. Two-thirds hardwood, mostly white oak, hickory and poplar, balance yellow pine. Good level logging land. Price \$30,000.

50,000,000 feet short-leaf pine, Eastern North Carolina. Price \$200,000.

Up-to-date band mill in Eastern North Carolina; 60,000,000 feet standing timber behind it. Making good money. Price and terms on application. Green & Redd, Ninth and Franklin Sts., Richmond, Va.

TIMBER

SIX MILLION FEET cypress timber at bargain. Near Railroad. Jasper Carter, Dade City, Fla.

FOR SALE—Old N. C. timber. About 20 million feet of finest grade N. C. pine. Water and rail transportation. Address No. 4077, care Manufacturers Record, Balto., Md.

WANTED—To sell two hundred million feet timber on stump, well located. Hardwoods, pine, cypress, etc.; good propositions. J. Arthur Henderson, Charlotte, N. C.

FOR SALE—Large body of extra fine virgin yellow pine timber, situated in Alabama, within easy reach of R. R. Address P. O. Box 1610, Pensacola, Fla.

FOR SALE—Dogwood timber. About 4000 cords of merchantable dogwood timber, located nearby South. Water and rail transportation; cheap labor. Address No. 4078, care Manufacturers Record, Balto., Md.

LUMBER

FOR SALE—2" and 3" red and white oak crossing plank, 12 to 16 ft. long. Forest Hardwood Co., Forest, Miss.

WAGON POLES

FOR SALE—White oak wagon poles, 3"x6" at butt, 3"x3" at point, 12-ft. lengths. F. F. Bown Mfg. House, P. O. Box 500, Pittsburgh, Pa.

FARM AND TIMBER LANDS

WE OWN LARGE TRACTS OF TIMBER LANDS, cut-over lands and colonizing lands. If interested, address H. H. Wefel, Jr., & Co., Mobile, Alabama.

FOR SALE AT BARGAINS—Several farms, both large and small, well improved, in the famous trucking, tobacco and garden sections of Eastern North Carolina. Also a tract of 12,000 acres in pine timber in South Carolina. For other information address No. 4086, care Manufacturers Record, Balto., Md.

HARDWOOD TIMBER.

Six hundred fifty million feet, 60 per cent. white and red oak, 15 per cent. other oaks, 25 per cent. hickory, poplar, chestnut, white and yellow pine; \$150 per M.; \$500,000 cash; balance four equal annual payments, interest 6 per cent.; 20 years to remove timber.

LONG-LEAF YELLOW PINE.

Any size tract desired; timber suitable for shipbuilding.

CUT-OVER LANDS.

Suitable for colonization purposes and cattle ranches.

EVERGLADE LANDS.

200,000 acres of the most desirable lands in South Florida for trucking, citrus and other tropical fruits. This land when developed will sell for from \$50 to \$150 per acre. Price \$1,000,000, subject to prior sale. This is the greatest investment in Florida. S. C. Littlefield, P. O. Box 552, Jacksonville, Fla.

STOCK FARMS

FOR SALE OR LEASE—In the bull-weevil district, 600 acres, for term of five years. Fine stock proposition. Apply to H. S. Griffin, Arlington, Tenn.

FARM AND GRAZING LANDS

W. W. BRIGGS & SON,
Real Estate Brokers.
328 farms for general farming and grazing, mineral, timber and coal land, in South and West, for sale. Civil Engineers and Surveyors. Levy Building, Orange, Va.

CUTOVER LAND

CUTOVER LANDS for sale. We have for sale 2040 acres of land in a fine farming section, having some good pine timber on a portion of it; can be purchased cheap and on most liberal terms. The Guaranty Trust and Savings Bank, Jacksonville, Fla.

SUBDIVISION TRACTS

400-ACRE SUBDIVISION TRACT.
For Sale—One of the most desirable and valuable tracts of subdivision property around Tampa. This property lies within four miles of the center of Tampa and has one-half mile of bay frontage. A street-car line will be built through this property within the next twelve months. This property lies within the high-class restricted residential section and will be sold at way below its actual value. For information and price write Hammond-Weaver Co., 4 and 5 Giddens Bldg., Tampa, Fla.

WINTER HOME

AN OPPORTUNITY—Want a winter home? Party leaving city offers beautiful new suburban residence for sale at sacrifice. Every convenience. Miss May Tomlinson, Lakeland, Fla.

REAL ESTATE WANTED

FIVE prospective buyers of your home, farm or business within 30 days or no fee. Any location. Save agent's commission. Realty Service Co., Danville, Va.

FRUIT, FARM AND TRUCK LANDS

FLORIDA

FOR A SAFE and permanent investment, Florida lands and values should interest you. Manatee County is the best location, and is destined to become one of the most progressive settlements in the State and a very profitable investment. Florida farms in Manatee County are below frost belt; have rich soil, with 365 producing days. Easy terms. Manasota Land & Timber Co., Maryland Casualty Tower Building, Baltimore, Md., and Sarasota, Florida.

A BEAUTIFUL WINTER HOME, a profitable orange and grapefruit grove, a general farm, cattle, hog or poultry ranch in the famous Indian River section, Vero, Florida. The wonderful climate permits not only agricultural operations all the year, but all enjoyable, life-prolonging outdoor sports. Investigate now this wonderfully charming section. Indian River Farms Company, First National Bank Building, Vero, Florida.

FOR SALE—Fine forty-acre farm, eight miles from the business center of Tampa, on hard main highway, one-quarter mile from golf club. Entire tract under hog-proof wire fence; five acres sub-irrigated; large flowing well; modern seven-room bungalow, barn, henhouse, tenant-house, two fine mules, two wagons, all farming implements, Ford auto; eight acres now being planted in fall crops; celery, lettuce, cabbage, eggplants and other crops. This is a first-class farm and will be sold at a bargain. Hammond-Weaver Co., 4 and 5 Giddens Bldg., Tampa, Fla.

FOR SALE—Unusual location, with exceptional educational advantages for man with means; tract 242 acres, joining city, half mile from University of Florida and Agricultural Station; splendid for home and stock farm; nothing like it elsewhere in Florida. Send for plat and price. B. R. Colson, owner, Gainesville, Fla.

THREE THOUSAND acres prairie land on edge of Florida Everglades, near Miami. Excellent for stock raising or trucking; good road. Price twenty dollars an acre, on very easy terms if desired. Ten-acre tracts in this locality have sold for fifty and one hundred dollars an acre.

If you are interested in round timber, both pine and cypress, cut-over, prairie or farm lands, or Florida lands of any description, write me.

William I. Phillips, Miami, Florida.

Reference: Bank of Bay Biscayne and Miami Chamber of Commerce, Miami, Fla.

For Sale.

17 ACRES OF GOOD LAND,

Near Thonotosassa, Fla.

D. W. Bullard, Tampa, Fla.

FLORIDA—Do you intend visiting the land of health and sunshine this winter? If so, write M. J. Hoenic, Prop. Hotel Palms, West Palm Beach, Fla., for instructive booklet.

FOR SALE—Beautiful grove, 250 grapefruit, 50 orange trees; 5-room house, barn and poultry yard; near city and gulf. Price \$1550. Box 67, Dunedin, Fla. Owner.

GEORGIA

LARGE STOCK FARM on Chattahoochee River, Southwest Georgia. Will exchange for first-class income-bearing, unincumbered city property. S. & M., Box 55, Dothan, Ala.

FOR SALE—A farm of 4130 acres in high state of cultivation, 87 miles west of Savannah, Ga., on Central Railroad; 7 miles from county seat; turnpike road runs both north and south and east and west through farm; plenty tenant-houses and wood and timber for upkeep of place; bearing pecan grove, 10 acres; Bermuda pasture, 50 acres; two-story eight-room house, set in oak grove, for owner; one-story four-room house for superintendent; artesian well flows 10 feet; a small creek on west boundary, from which power can be developed to run electric plant; system cotton gin, grist mill, bean mill, storehouse, a railroad station and postoffice on place. For quick sale will take \$31 per acre and give possession when I get this crop off, not later than December 1. T. Z. Daniel, Rogers, Ga.

SOUTH CAROLINA

FOR SALE—2000 acres of very fertile farming lands; 1000 acres cleared; free from stumps; elegant 9-room residence; about 300 acres of old rice fields; abundance of wild ducks, wild turkey and partridges; freshwater fish. Address E. S. Pegues, Bonneau, S. C.

Classified Opportunities

FRUIT, FARM AND TRUCK LANDS

VIRGINIA

FARMS FOR SALE.

One contains 141 acres, 3 miles of the city, good house and outbuildings; one contains 140 acres, good house and outbuildings, near city; one contains 60 acres, good house and outbuildings, 2½ miles of city; one contains 109 acres, near city, with conveniences; one contains 25 acres, one 54 acres, near city. Have farms any size wanted. E. B. Moore & Co., 201 Mechanics Bldg., Petersburg, Va.

EXCELLENT RIVER FARM, over 1100 acres, 700 in cultivation, balance in timber; all comparatively level; chocolate soil; divided into fields by miles of good fencing; two fair dwellings and outbuildings; one mile from depot; 18 miles from Richmond. If sold in a short while, can be bought for \$5 an acre. Pollard & Bagby, Inc., Richmond, Va.

WE have the finest list of farms for sale ever offered in Virginia. Several on the James River, York, Nansemond, Chuckatuck and other rivers, also on Broad Bay, Linkhorn Bay, also many inland farms. Be sure and write for our list. We can suit you at any size or price. H. C. Hoggard & Co., Norfolk, Va.

VIRGINIA FARMS AND LARGE TRACTS. 640 acres on the James River, 16 miles above Newport News, nearly three miles of beautiful water frontage, 20 to 30 feet above the water; fine land. Will divide into 100 or more acre tracts if desired; \$50 per acre. H. C. Hoggard & Co., Norfolk, Va.

MAP OF KENTUCKY OIL FIELD

Showing the great oil-bearing regions from the Kentucky to the Licking Rivers, including the popular signboard section in Lee County. Shows all farms, roads, pipe lines, oil wells, both dry and producing, gas wells, and present drilling up to date.

Printed on nice linen, size 20 by 120 inches, and the price is only \$10. Postpaid to anyone. Satisfaction or money refunded. James Winn, C.E., Witt, Estill Co., Ky. Phone 203.

BUSINESS OPPORTUNITIES

WANTED—The address of a plant that can undertake drop forging, machine and nickel-plate work to manufacture our combination wrench. These tools are used by the thousands. For further information address Prince Combination Tool Co., Sole Owners, Carrollton, Ga.

FOR SALE—Garage and stock accessories; invoice about \$3000; located at Carrizo Springs, Texas; only garage in city; thriving business; reason for selling, other business and duties, cannot give it attention; impossible to secure first-class mechanic. W. T. Gardner, Sheriff, Carrizo Springs, Tex.

WANTED—To contract sawing of million feet of timber; mill furnished; pay good price. F. M. Hughson, Roanoke, Va.

FOR SALE—Dismantled stove plant in Arkansas; splendid location for canning factory; good truck and fruit country; good buildings on private switch. Will take stock for value of land and buildings in company that will bear investigation. Present Stave & Heading Co., Saratoga, Texas.

FOR SALE—Hotel and business property in Lynchburg, Virginia. 23-room 3-story hotel and restaurant, completely furnished and modern. Store room adjoining, with 12 living-rooms above. Hotel rented to good tenant at \$2400 per annum on three-year lease. The whole property will rent for \$3000. Located at Union Depot. Will accept \$10,000 in good city or farm property. Price only \$35,000. International Farm Agency, Lynchburg, Va.

PARTY controlling patent granted by U. S. Patent Office for apparatus for deep-sea ship salvage desires to interest individual or company having ample funds to utilize same and prepare for salvage work when war ends. Ships to be lifted by cables passed under hull. Address No. 4076, care Manufacturers Record, Balto., Md.

IMMENSE RICH NEW SULPHUR MINE discovered; only 2 other real sulphur companies in U. S.; one pays 2300 per cent. yearly dividends. New larger and third sulphur company formed for immediate mining; has one thousand acres very rich sulphur land showing tests from 50 to 90 per cent. sulphur. Write for full free descriptive literature. Means sure money for you. Scott Investment Co., Kress Bldg., Houston, Texas.

WILL EXCHANGE downtown income property, one block from City Hall, Indianapolis, appraised value \$165,000, inc. \$35,000, due 1922, 54%, for Southern lands. John T. Martindale, 429 Board Trade, Indianapolis, Ind.

WANTED—Partner with from six to eight thousand to invest with like amount in a lucrative manufacturing business. For particulars address Box 304, Anniston, Ala.

BUSINESS OPPORTUNITIES

TWENTY THOUSAND acres good oil prospect land leased. Capital wanted for development on acreage basis. Address Mt. Vernon Oil & Gas Co., Mt. Vernon, Texas.

WANTED—Party with \$50,000 to invest in Alabama graphite. Plants now running are making 200% clear profit. Write for details. Morris Spact, Ashland, Ala.

BUILDINGS—STEEL PORTABLE

"PRUDENTIAL" STEEL BUILDINGS for all purposes; portable one-story construction; workshops, toolhouses, storage, garages, bunkhouses, etc. Write for Catalog A. C. D. Pruden Company, Baltimore, Md.

INCORPORATING COMPANIES

DELAWARE CHARTERS. Stock Without Par Value. Directors Need Not Be Stockholders. Other important amendments (March 20, 1917). Write for new DIGEST (4th ed.). CORPORATION COMPANY OF DELAWARE Equitable Building, Wilmington, Delaware.

PATENT ATTORNEYS

POSTAL will bring free booklet telling all about patents and their cost. Shepherd & Campbell, Patent and Trade-Mark Attorneys, 732 8th St., Washington, D. C.

PATENTS—Write for how to obtain a patent, list of patent buyers, and inventions wanted. \$1,000,000 in prizes offered for inventions. Send sketch for free opinion as to patentability. Our four books sent free upon request. Patents advertised free. We assist inventors to sell their inventions. Victor J. Evans Co., Patent Attorneys, 712 Ninth St., Washington, D. C.

HIGH-VALUE PATENTS Patents that fully protect. Patents that Pay Largest Financial Returns are the kind we obtain. References. SUCCESSFUL INVENTORS and WELL-KNOWN MANUFACTURERS. Send 8 cents for new book of extraordinary interest and value to inventors. R. S. & A. B. Lacey, 93 Barrister Building, Washington, D. C. Established 1869.

EUGENE C. BROWN, ENGINEER AND PATENT LAWYER, 734 Eighth St., N. W., Washington, D. C. Graduate Engineer, Lehigh University; Member Bar U. S. Supreme Court; Former Examiner U. S. Patent Office. PATENTS AND TRADEMARKS. Inventions considered from engineering and legal standpoint. Infringements and extent of patent monopoly investigated for manufacturers. Glad to answer any inquiries.

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PATENTS THAT PROTECT AND PAY Advice and books free. Highest references. Best results. Promptness assured. Trade-Marks registered. Watson E. Coleman, Patent Lawyer, 624 F. St., Washington, D. C.

PATENT YOUR IDEAS—\$3000 offered for certain inventions; book, "How to Obtain a Patent," and "What to Invent," sent free upon request; send rough sketch for free report as to patentability. We advertise your patent for sale at our expense. Chandler & Chandler, Patent Attorneys, 978 F St., Washington, D. C.

INVENTIONS—PATENTING AND PROMOTING—A book containing practical advice and directions for inventors and manufacturers. Book, suggestions and advice free. Lancaster & Allwine, Registered Attorneys, 265 Ouray Bldg., Washington, D. C.

VINEGAR PLANTS OPERATED

RICHARD TURNER, Practical Vinegar Maker. Erects and operates vinegar plants. Correspondence solicited. Address 2703 Alameda Avenue, Baltimore, Md.

FACTORY SITES

FOR SALE—Sawmill site, consisting of 35 houses, commissary, office building, ample water supply; on 2 railroads, close to coal and iron field, in town of 1000; healthy; an ideal site for cotton mill. Maplesville Real Estate Co., Maplesville, Ala.

5500 WILL BUY the best industrial site in Pine Bluff, with switching facilities on St. L. S. W. Railway. Over 30,000 square feet of ground. Suitable for any kind of warehouse, oil station or factory. Tracy Mills, Pine Bluff, Ark.

FACTORY SITES

BALTIMORE FACTORY AND TERMINAL SITES—Statement of Asa G. Candler, President The Coca-Cola Co.: "Investigation convinced us that Baltimore is not only the commercial metropolis for Southern trade, but that it affords shipping opportunities both by water and rail for domestic and foreign traffic superior to any of the great cities in any section of the United States." Locate in Baltimore and derive these advantages. We can provide accommodations to meet your requirements.

"OUR MOTTO": FACTORY AND TERMINAL SITES IN BALTIMORE. Wm. Martien & Co., Ninth Floor, Lexington St. Bldg., Balto., Md.

FOR SALE—Valuable located manufacturing plant; 60,000 sq. ft. of floor space; brick; best railroad and water-front shipping facilities; price half what it would cost today. Manufacturing plant site of 180x320 ft.; rail and water facilities. Owner will exchange value for stock in company.

Railway and shipyard site; 400 feet water front. Write Veasey & Co., Agency, Havre de Grace, Md.

INDUSTRIAL PLANTS FOR SALE

FOUNDRIES AND MACHINE SHOPS

FOR SALE—Well equipped machine shop and foundry in S. E. Virginia town; established 15 years. Owner retiring and desires to dispose of the business as a whole. Address No. 4027, care Manufacturers Record.

SHIPYARD

SHIPYARD FOR SALE—The late Wm. R. Osborn's shipyard at Croton-on-Hudson is offered for sale to close an estate. Suitable for building yachts, tugs, small steamboats, etc. Blueprint of the yard may be seen at office of E. W. Vanderbilt, 126 Liberty St., New York.

MANUFACTURING PLANTS

FOR SALE OR LEASE—Three-story and basement brick and concrete building, 123x185 feet, outside city limits of Pine Bluff, Arkansas; population 20,000. Originally built for packing plant, but never put in operation. Can be converted into almost any form of manufacturing plant. Adapted for cottonseed or peanut oil refinery, cold storage, fertilizer factory, peanut factory, or factory for preparation of cooking compounds. Switching track and loading platforms for cars and teams. Two elevators in building. Address W. R. Heattie, Agricultural and Industrial Commissioner, St. Louis Southwestern Railway Lines, 1749 Railway Exchange Building, St. Louis, Missouri.

AGENCIES WANTED

ATTENTION, MANUFACTURERS! WASHINGTON, D. C. OFFICE modern, well located, wishes account of reliable firm dealing with Government or others. Fifteen years' selling experience. Address No. 482, care Manufacturers Record, Balto., Md.

MEN WANTED

IF ACTUALLY QUALIFIED for salary between \$2500 and \$5,000, communicate with undersigned, who will negotiate strictly confidential preliminaries for such positions; executive, administrative, technical, professional; all lines. Not an employment agency; undersigned acts in direct confidential capacity, not jeopardizing present connections. Established 1910. Send name and address only for explanatory details. R. W. Bixby, 21 Niagara Square, Buffalo, N. Y.

SALES MANAGER WANTED to travel over the United States and Canada and foreign countries after the war. Appointing agencies and getting them started. A good high-class product and one that has made good. Has been on the market for the past four years. Only high-caliber man need apply and who will work on a straight commission, and a good one need apply. Dept. S. M., Gastine Co., Bridgeton, N. J.

SALES MANAGER WANTED FOR EXCLUSIVE SALE AND DISTRIBUTION; restricted territory; high-caliber man with some finances to start; unusually good proposition to the right man. Write for particulars. Atlantic Ribbon & Carbon Co., Kinney Building, Newark, N. J. Dept. A.

WANTED—Manager for box and building material factory who will invest some money in the business. Address Association of Commerce, Jackson, Tennessee.

SALESMEN WANTED—Experienced in selling county officials, to handle metal culvert pipe. Strictly commission. Advise fully. Jefferson Mfg. Co., Savannah, Ga.

MANUFACTURERS' AGENTS wanted to sell a line of high-grade specialties for a concern of thirty years' reputation. Liberal commission basis. The Monitor Oil Company, Cleveland, Ohio.

MEN WANTED

WANTED—Competent, experienced electrician and machine boss for Missouri coal mine; 4-foot vein, room and pillar work; Goodman Shortwall machines and locomotives. Address, giving experience, salary expected, and references. Address No. 4088, care Manufacturers Record, Balto., Md.

WANTED—Southern dealers to handle a line of light-weight, air-cooled engines, recently adopted by the United States Government, consisting of 3 and 5 H. P. stationary engines, direct-connected centrifugal pumping engines, farm blower engines and electric-lighting plant. These engines win friends and re-orders wherever shown, and dealers are assured good profit and square dealing in their connection with the Aerothrust Engine Company, La Porte, Indiana.

WANTED—Salesmen to sell stock to finance a central electric power and by-products saving plant. Seventy square miles of coal beds, with mines opened, showing a vein of coal six feet thick at the back of the plant. Good proposition to salesman and investor. Literature and leads free. Further information, address Miss. Oil & Gas Co., Reform, Miss.

SITUATIONS WANTED

AN all-around man wants to connect with a small firm where his knowledge and experience of the iron and steel business will be valuable; draftsman and designer, considerable experience as foreman, thorough mechanic, good on getting work and getting it out. A variety of work desired. Address No. 4080, care Manufacturers Record, Balto., Md.

M. E. and draftsman wants change. Experience: Marine and stationary engines and boilers, general machinery, power transmissions, dredges, boat and ship building, structural work, estimating. No. 4087, care Manufacturers Record, Balto., Md.

HIGH-CLASS SALESMAN, now traveling Georgia, desires change. Will go anywhere. Food products line and straight salary preferred. Give edge references. Address No. 4089, care Manufacturers Record, Balto., Md.

A MAN, 35, married, would come South. He has good education, business and factory experience. Would like to work for a man of affairs who would notice honest worth. Address No. 4084, care Manufacturers Record, Balto., Md.

STEAMER FOR SALE

FOR SALE—Steamer Josie; 100 feet long, 24-foot beam, 6½-foot draft, 150-ton capacity, 100 horse-power, steam; ready for use; can be seen in Covington, La. Write or wire D. H. Weaver, Covington, La.

OFFICE EQUIPMENT

FOR SALE—Oak horizontal filing cabinets; four with 60 drawers each; two with 30 drawers each; one with 75 drawers. All are in perfect condition. Templeton, Kenly & Co., Ltd., 1029 S. Central Ave., Chicago, Ill.

MACHINERY AND SUPPLIES

FOR SALE—Two 60 H. P. Erie Steam Engines; two 60 H. P. Erie Boilers; two Worthington Centrifugal Pumps with capacity of 15,000 gallons per minute each; two Worthington Centrifugal Pumps with capacity of 9000 gallons per minute each. All of this equipment has been in use less than 60 days. The Everglades Sugar & Land Co., Lawyers' Bldg., Miami, Fla.

RELAYERS FOR SALE—2 miles 25-pound, 6 miles 30-pound and 6 miles 35-pound at \$60 per gross ton f. o. b. cars Cutting, Ga., with splice bars and bolts weighed in; 300 kegs second-hand spikes, 4c. per pound; all good condition; inspection here as loaded. Georgia Lumber & Turpentine Co., Cutting, Ga.

SECOND-HAND BOILERS FOR SALE—Six 150 H. P. return-tubular quadruple butt-jointed, Hartford recommended, pressure 145 pounds. A. S. McKillip, Mulberry, Fla.

FOR SALE—Cheap, 20 H. P. engine, 25 H. P. boiler, Adams make; good condition. A. H. Mott, R. 1, Jackson, Tenn.

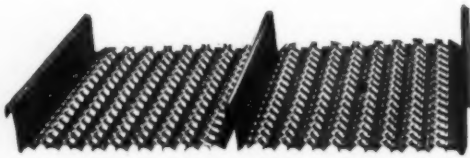
FOR SALE—Two Rawser gasoline tanks and pump, one 550-gallon, one 300-gallon tank; \$125 gets either of them. Box 700, Asheville, N. C.

MACHINERY AND SUPPLIES WANTED

WANTED—One set second-hand 30x14 or 36x16 crushing rolls in good condition. Send price and specifications to Southern Graphite Co., Ashland, Ala.



IT'S THE STRENGTH OF THE RIBS THAT COUNTS



1 1/2" HY-RIB—Very rigid. For heavy loads and wide spans.

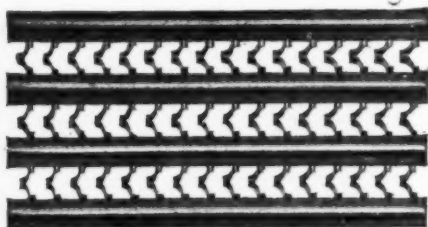


3/8" HY-RIB Lath used as a self-furring lath and in partitions, ceilings, etc., for stud spacings 24 to 36 inches.

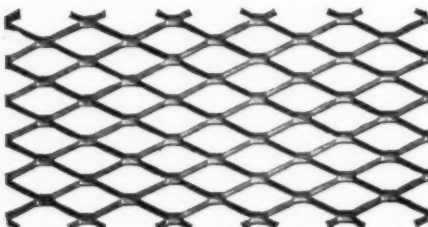


Channels without prongs, 3/4, 1, 1 1/2, 2 inches.

Kahn pressed steel channel studs, 3, 4, 5, 6 inches; also 2 inches without turned flange.



Beaded Plate Rib Lath permits two-coat work instead of three.



Detroit Diamond Lath in four gauges.

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Build fireproof, economical, permanent buildings, and build them rapidly. With this type of construction no forms, studs or channels are necessary—thus saving valuable time, labor and space. Building with Hy-Rib is simplicity itself—merely place the sheets and apply plaster or concrete. Hy-Rib is equally satisfactory in the largest factory or the smallest residence.

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The Complete Line Includes:

Hy-Rib in four types—3/8" to 1 1/2" for walls, partitions, ceilings, floors, roofs, furring. Various types of Rib Lath, Diamond Lath, Pressed Steel Channels and Studs, Corner Beads, Base Screeds, etc.

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Don't depend on the dangerous, old-fashioned cesspool to take care of sewage disposal. No matter where your factory or country home may be—nor how large or small it is, it needs a sanitary, efficient sewage disposal system—and you can have one that exactly meets your needs. The Kewanee Sewage Disposal System takes care of all waste in a simple sanitary way and will more than repay you.

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If the grounds about the mill-village are planted with trees, shrubs, etc., your employees will take added interest in their work and be more contented.

Mr. J. H. Mayes, President of the Rex Spinning Co., Charlotte, N. C., says: "The directors of this mill feel that it is a decided benefit to the owners to make the grounds attractive and give the employees pleasant homes."

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Our landscape department has planned attractive grounds for many mills, and is ready to help you when you say the word. Will you say it?

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156 acres, about 2000 feet water front. City Water, Electric Street Railway, Electric Light and Power. Atlantic Coast Line, Southern and Seaboard Air Line Railways. Sites of any size to suit purchaser.

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Oxides of Iron Maximum, 2 per cent.

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Anyone interested in the manufacture of potassium salts from feldspar by a new, cheap process, please apply to P. C. Dutt, Barrister, Jubbulpore, C. Prov., India.

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These must be in condition for immediate service and equipped with double drums for grab-bucket work.

Can use either 8-wheel M. C. D. or 4-wheelers, standard gauge.

Capacities 10 tons or larger. Prefer 15 or 20-ton 8-wheelers.

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Approximately 6"x12". State manufacturer, mechanical condition and best price. Address

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Set of Triple or Quadruple Effect EVAPORATORS

of about 2000 sq. ft. heating surface. Also, Direct Fired Rotary Dryers. Above must be in good condition and offers must give complete specifications and state where equipment may be seen for inspection. Address

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Steam Engine Generator Unit

3-phase, 60-cycle, 2300 volts.

Can use two units 500 to 600 K. W. capacity.

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We are also in the market for all kinds of Iron and Wood Working Machinery, Steam and Electric Power Equipment, and Contractors' Machinery.

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Paving and three-wheel roller.

For immediate shipment.

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with platform at least 4 1/2 feet square and for a maximum weight of 900 pounds, hand operated, and length of run to be about 8 feet, so constructed that when in the up position no part of the equipment will project above floor.

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Send particulars to

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Plow Steel Wire Rope

To purchase 10,000 feet each of 5/8 and 3/4 inch 6x19 Plow Steel Wire Rope. Name price, make of rope and quantity in first letter.

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We have just purchased the plant formerly used by The Muscatine Lumber & Box Co. of Muscatine, Iowa, and offer the following machines at very low prices:

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BOILERS—(New) 1—42-in. x 13-ft. 6-in. Locomotive type, Mass. and Ohio Standard, 140 lb. pressure. 1—36 in. x 12 ft. 7 1/2 in. Locomotive type, Mass. Std., 125 lb. 2—42 in. x 8 ft. 0 in. Vertical Cross Tube, low pressure.

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DIPPERS—Several plate front, sizes 3/4
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TANKS—2—1350 gal. tanks, in good con-
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ROPE—875 feet 7/8 in. 6 x 19 Plough Steel
Rope. 975 feet 1 1/2 in. 6x19 Plough
Steel Rope, little used, fine condition.

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IMMEDIATE SHIPMENT

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Our usual stock of tubular, water tube, fire box and vertical boilers, engines, pumps, heaters, etc.

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FOR SALE

- 2 60x16 High-pressure R. T. Boilers, with steel casings, hangers and stacks.
- 2 72x18 High-pressure R. T. Boilers, with steel casing, hanger and stack.
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1220 TONS BAR IRON

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— WILL BE SOLD —

1220 tons galvanized refined bar iron in 16 to 20 foot lengths of the following sizes and weights:

23,000 pounds 1 1/2" Round
32,250 pounds 1 3/8" Round
850,000 pounds 1 1/4" Round

1,311,000 pounds 1 1/8" Round
14,500 pounds 1" Round
212,000 pounds 7/8" Round

The iron will be sold in lots to suit purchasers.

For terms, permission to examine and any further particulars, apply to

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FOR SALE Used Machinery In Good Condition

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- 1 150 H. P. Wheland Twin Engine.
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- 35 23" to 72" Used Circular Saws.

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Machinery of every description. Complete Industrial Plants and Idle Industries a Specialty. Write me before closing on your materials.

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Ten 150 H. P. Upright Boilers, 160 lbs. steam; 525 H. P. and two 325 H. P. B. & W., with stokers and hand fired, 150 and 160 lbs. steam; one, each, 165 and 206 H. P. Heine Boilers, also five Stirling Boilers, with stacks, 150 lbs. steam; one, each, 150 and 125 and two 100 H. P. Horizontal Return Tubular Boilers, used five years, 125 lbs. steam; three 6x43 ft. 6 and four 5-ft. x 20-ft. round closed Tanks, 2-16 and 3/4 metal; ten round Wooden Tanks, 8 ft. x 8 ft., 2 1/2" oak.

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30 Posts, 33 ft. long, made up of 12"x 5 1/4" I Beams; 31.5 lbs. per foot; and 12" Channels, 20.5 lbs. per foot, complete with posting plates.

36 Parallel Trusses about 50 ft. long x 5 ft. wide.

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One 200-Horse Corliss Engine.
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Both of the above placed into disuse on account of a change from steam to electrical power, and will be sold reasonably. Address

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Ten 15' 6"x10'x4' 6" deep, 5300 gal.
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Eight 7' 6"x7' 6"x7' deep, 3000 gal.

These tanks have absolutely never been used; are heavily built, being reinforced at top with heavy band and inside by 1" wrought-iron rods, extending both ways.

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Five 10'x6'x5' 6" deep, 2500 gal.
These tanks are brand new, 3/4 and 7/8" metal, reinforced by wrought-iron rods.
One 27'x12' 6"x4' 6" deep (second-hand), approximately 14,000 gal.
One closed tank, 60"x14', 2000 gals.

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HOT and COLD ROLLED SOFT STEEL

50 tons Hot-Rolled Soft Steel, 12 gauge, 3 1/2" wide x 12' to 30' long.
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Immediate shipment from Connecticut point.

Will cut to shorter lengths if desired.

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One 175 Ton Vertical York

Ammonia Compressor

Driven by a Simple Automatic Cut-off
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One—One Hundred Ton

Ziegler Steam Condenser

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Water Tube Boilers

- 2—350 H. P. Babcock & Wilcox type.
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All good for 160 lbs. working pressure, plain grates, in fine condition, immediate delivery.

Complete with steam header, stack connection and all necessary fittings.

Also 22"x48" Brown Corliss Engine.

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BOILERS

1 250 H. P. McNaull Horizontal Heine Type Water Tube, 150 lbs. pressure.

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1 Practically New 10x10 Clyde Double Cylinder Double-Drum Hoisting Engine.

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One 100 H. P., 125 lbs. pressure, new Ames Boiler, with or without 14x36 Murray Corliss Engine, used one year. One 140 H. P. Ball Engine, direct connected to 90 K. W. Westinghouse Generator. One 65 H. P. Ideal Engine, belted to 45 K. W. General Electric Generator. All first-class. No junk.
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12x30, 80 H. P. Hewes & Phillips Horizontal Corliss Engine, with 10-foot flywheel. Also

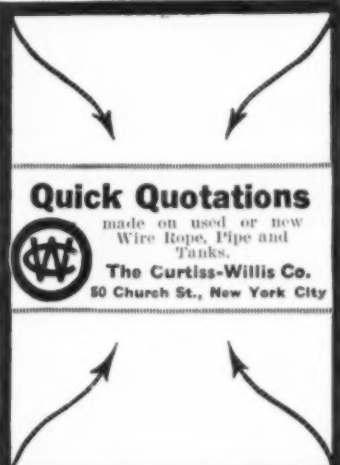
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Wire Rope, Pipe and
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IMMEDIATE DELIVERY

2—60"x16' (100 H. P.) Return Tubular Boilers, butt strapped, triple riveted, full fronts, all fixtures and fittings, breeching and stack; practically new; 125 lbs. working pressure.

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Must be moved at once. Write or wire for prices.

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5 150 H. P. 72x18 150 lbs. Horizontal Return Tubular Boilers, complete, with Jones Underfeed Stokers, Stoker Fan, Stoker Fan Engine, Feed-Water Heater, Steam Header, Horizontal Smoke Breeching and all fittings.

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6—250 H. P. Stirling Boilers, hand fired, in good condition, with fittings, stacks and feed-water heater, each having superheater and Parsons forced-draught system.

1—10-ton Paxton Cupola, with air elevator blower and air pipe.

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New and second-hand, high pressure, for immediate shipment. All makes.

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- 1—118"x150' 0" Steel Stack (never used).

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| H. P. | Press Lbs. | H. P. | Press Lbs. |
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| 2-72x18 | 130 | 4-300 Westh. Vert. | 150 |
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20"x10' Single-Step D. B. G. Lodge & Shipley Engine Lathe.
16"x6' Lodge & Shipley Plain Stud Lathe.

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Peerless Belt Lacer.
24" Cincinnati Upright Drill with tapping attachment.
36" Safety Wet Tool Grinder.
36" Safety Wet Tool Grinder.
No. 1 Diamond Bench Grinder on pedestal.
Dry Grinder for two 12" wheels.
Heald Style "C" Drill Grinder.
Two 24" Rockford Wet Tool Grinders.
Globe Tool Sharpener.
Two U. S. Portable Electric Grinders, 110-volt, 2 H. P.
U. S. Portable Electric Grinder, 110-volt, 1/2 H. P.
Universal Swivel Table for radial drill.
15 H. P. Gas Engine, 215 R. P. M.
Triplex Single-Acting Vertical Dean Pump.
4 1/2" bore, 3 1/2" stroke.
3" Hurlbut-Rogers Cutting-Off Machine.
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DELIVERY NOW.

The Lodge & Shipley Machine Tool Co.
Cincinnati, Ohio

1 42-in. 3-Drum Invincible Sander.
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1 24-in. 1-Drum Boss Sander.
1 30x6 Fay 6-Roll Double Surfer.
1 28x8 Woods 6-roll Double Surfer.
1 26x8 Rogers 6-Roll Double Surfer.
1 30x12 999 6-Roll Double Surfer.
2 30x6 Egan Cabinet Planers.
1 27x7 Smith Cabinet Planer.

Woodworking Machinery of All Kinds.
Engines and Boilers.

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Equipment of Stone Plant

We have just purchased and offer cheap for quick removal, machinery, complete, of a small stone plant, as follows:

1 "Anderson" Diamond Saw, 12' 6" between saws; will cut 30" thick.
1 102" Rubbing Bed, 11' table.
1 "Geo. Oldham" Stone Surfer.
1 Stone Planer, 36"x40"x24' bed.
1 Stone Planer, 42"x42"x12 1/2' bed.
1 20"x8' Lathe.
2 Pneumatic Hand Hammers.
1 30 H. P. "Westinghouse" A. C. Motor, 2 ph., 60 cy., 220 volts.
1 50-light 115-volt "Robbins & Meyers" Dynamo.
1 7 1/2"x10" "Mundy" D. C. D. D. Hoist, with Boiler.
1 3"x6" "Mundy" Link-Motion Swinger.
1 6 1/2"x8" "Flory" D. C. D. D. Hoist, with Boiler.
1 9"x12" "Nagle" Horizontal Engine.
1 54"x10" "Lebanon" Vertical Boiler.
Also, small equipment, such as hand winches, flat truck and dump wagon, rigging, feed-water heater and pump, and miscellaneous material.

We also handle iron and wood working machinery, contractors' equipment, steam and electric power equipment.

Send for complete stock list just out.

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First-Class Used Machinery

For Every Conceivable Kind of

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HAMMERS
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Machinery now in operation used for Lighting and Water Plant for City.
Delivery can be made within a few weeks.
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We offer the following for immediate delivery:

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1-600 H. P. B. & W., 160 lbs. pressure.
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2-450 H. P. Edge Moor, 150 lbs. pressure.
3-350 H. P. Stirling, 150 lbs. pressure.
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1-330 H. P. B. & W., 160 lbs. pressure.
4-300 H. P. Campbell & Zell.
2-250 H. P. Stirling, 160 lbs. pressure.
5-250 H. P. Campbell & Zell.
1-150 H. P. Economic, 125 lbs. pressure.
3-100 H. P. Return Tubular, 125 lbs. pressure.
3-300 H. P. Return Tubular, 110 lbs. pressure.
1-200 H. P. Marine type, 120 lbs. pressure.
Innumerable others, all sizes.

ENGINES

1-10x24 Hamilton Corliss.
1-16x36 Watts-Campbell Corliss.
1-16x42 Bates Corliss Engine.
1-22x48 Brown Corliss Engine.
1-21x48 Hamilton Corliss Engine.
1-30x42 Rolling Mill type Corliss Engine.
1-30x48 Heavy-Duty Corliss Engine.
1-34x60 Heavy-Duty Corliss Engine.
1-20x36x48 Cross-Compound Engine.
Innumerable others.

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3-375 K. V. A. units, with compound engines.
1-250 K. W., with compound engine.
1-200 K. W., 2-ph., 60-cy. Belted Generator.
2-150 K. W. units, with automatic engines.

D. C. UNITS

1-75 K. W., 250-volt, with simple engine.
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3-110 K. W., 250-volt Gas Engine Units, with producers, complete.
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1-150 K. W., with simple engine, 250 volts.
1-200 K. W., 250-volt, with compound engine.
1-250 K. W., 125-volt, with Ball engine.
1-300 K. W., 250-volt, with compound engine.
2-300 K. W., 250-volt, with simple engines.
3-800 K. W., 250-volt, with cross-compound engines.
1-60 K. W. and 1-50 K. W. Belted Generator, 550 volts.
1-300 K. W. Belted Generator.
1-250 K. W. Belted Generator.
1-275 K. W., 600-volt unit, automatic engine.
Innumerable others, all sizes.

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2-Cross-Compound Corliss type, capacities 5000 and 4700 cu. ft. p. m.

Power Equipment Company**ENGINEERS**

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FIRST CLASS USED MACHINERY FOR SALE

Two ten-wheel standard-gauge Lehigh Valley 18x24 Locomotives.
Diamond Iron Works 6-ft. left-hand Horizontal Resaw.
Lidgerwood 12x12 Cableway Engine, with steel tower, cable, etc.
Challoner 10-block Shingle Machine complete.
Steel 24-ft. x 80-ft. Burner.
Four 66x16 Horizontal Tubular Boilers, with stack and dutch-oven settings.
Buckeye Cross-Compound Engine, 18 1/2 and 32 1/2 x 30" nominal H. P. 515, economical range 450 H. P. to 650 H. P., maximum 700 H. P.
Bury Compound Air Compressor, 8x14x9x3, with steel compressed-air tank.
Two 60x16 Erie City Horizontal Tubular Boilers, with steam dome, mud drum and water connections complete.
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One 24"x10-ft. Solid Spindle Lathe.
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Whiting No. 2 1/2 Cupola and Foundry Equipment complete.
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Complete equipment for two-room Drykiln.
Kraetzner Steel Cylinder Preparator, 10 ft. x 20 ft.
Lot Industrial Cars and Lumber Trucks.
Six-panel Marble Switchboard with instruments.
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1500-gallon Underwriters' Duplex Fire Pump.
Water Mains, Hydrants, Play Pipes, Reel Cars and fittings.
Complete Sprinkler System.
Three Brunswick-Balke standard Pool Tables.
One double Hotel Range with warming closet (Burton).
One Burton four-shelf Improved Bake Oven.
A lot of other equipment and supplies.
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Planer, 8-foot Capacity, 12-
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Condition.

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No. 9 Saunders, 8" to 16" capacity.

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4" Morris, 2 1/2" to 4" capacity.

4" Armstrong, 2 1/2" to 4" capacity.

2" Borden, 1/2" to 2" capacity.

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2" Saunders, 3/4" to 2" capacity.

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Twelve New 24" Hollingworth Improved Triple Geared Crank.

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No. 2 Barrett Horizontal Cylinder Boring Machine, 5" bar.

Betts Horizontal Boring Mill, 2 1/4" bar.

Four 30" Bullard Vertical Boring Mills, single turret head.

20" Bullard Vertical Turret Lathe, with side head and turret head.

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Niles Car Wheel Boring Mill, table 48" diameter.

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60"x16" Fifield, face plate drive.

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50"x15" New Haven.

42"x19" Putnam heavy duty.

36"x18" Farrel.

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30"x20" Fifield.

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17"x8' NEW National, quick change.
17"x8' NEW Sidney, D. B. G., quick change, swing 19" over shears.
15"x8' Springfield.
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20"x10' Hamilton.
22"x12' Reed, blocked to swing 29".
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16"x10' Automatic Threading Lathe.
36"x36"x8' Pond Planer, 2 heads.
24"x24"x6' American Planer.
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200 H. P., 72"x30", Coatesville, 150 lbs. steam pressure.
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150 H. P. Erie City Iron Works Locomotive Boiler, 110 lbs. steam pressure.
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200 H. P. Westinghouse, type "CCL", 2200-volt, 680 R. P. M.
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35 H. P. General Electric, form "K", 440-volt, 900 R. P. M.
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127-131 N. Third Street

PHILADELPHIA, PA.

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120-170-225 H. P. Belted.
150 K. W. G. E. 2500 V. 3 ph. 60 cr. direct
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2300 K. W. A. C. Diesel Units.

**American Diesel Complete
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Three Self-Hardening Cylinders, 66x43 ft.
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Cars and Turntables, fine condition; one,
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STEEL BUILDINGS, many styles and sizes.
CONNERSVILLE BLOWERS, also fan types.
EXHAUSTERS, COMPRESSORS, PUMPS,
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16 pieces New, 20-in. diameter.
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Standard-gauge Oliver Spreader Car in
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Large and Small Marion, Vulcan and
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14,500 ft. 16-lb. 24-in.-gauge Koppel Track, with frogs and switches.
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1 Type "O" Thew Shovel.
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1 7x10 D. D. C. National Hoisting Engine with swinging attachment.

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One Lidgerwood, 14"x18", D. C., three tandem drums, suitable for cableway.
One Flory, 7x10, D. C., D. D., with boiler.
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One National, 6½x10, D. C., D. D., with boiler.
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One Lidgerwood Rotary Swinging Engine.
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Stiff leg derrick with 72-foot trussed boom.

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No. 0 Austin.
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First-class condition and ready for immediate delivery.

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Three McMyler Whirleys

McMyler, 3-drum, all steel full circle swing, self-propelling clam shell outfits, with 65' boom. Suitable for unloading coal, sand, crushed stone, lumber, etc.

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class E, complete and in the best of condition, requiring no repairs of any kind whatsoever, including short rails, jack arms, blocks and track clamps, etc.

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1300 feet Riveted Steel Pipe, 20" diameter, flanged and new gaskets.
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Four Steel Buildings

1—Steel Building in three 75 ft. bays, 252 ft. long; 10-ton crane in each bay.

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1—Steel Building, 75'x250'; no crane or crane-way run.

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400—Tons 35-lb. relaying rail.

320—Tons 40-lb. relaying rail.

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1—24-ton Shay locomotive with 8"x10" cylinders; standard gauge, good condition.

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200,000 ft. Abendroth & Root 20" diameter spiral riveted, 10 gauge steel pipe, with Root couplings.

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1—9"x10" double cylinder, 4-drum Lidgerwood skidding outfit, complete with boilers and 8½"x10" double cylinder, 4-drum loading engine.

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4—Stiff-Leg 35-ft. Mast, 40-ft. Boom.
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5—Sets Stiff-Leg Derrick Fittings, 50 tons capacity.

LOCOMOTIVES

4—10x16-in. Vulcan and Porter, 36-in. gauge.
2—9x14-in. Porter, 36-in. gauge.
1—8x10-in. Baldwin, 36-in. gauge.

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DUMP CARS

35—Western, 4-yd. capacity, 36-in. gauge.
15—Double Truck Center Dump, 36-in. gauge.

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1—10x12-in. D. C., D. D., with Boiler.
3—7x10-in. Lidgerwood, D. D., D. C., swinging gear.
1—3-drum Electric.

4—8½x10 Lidgerwood, D. D., D. C.

STANDARD GAUGE LOCOMOTIVES

1—40-ton saddle-tank Baldwin.
1—35-ton 2-4-2 Porter saddle tank.

Construction Equipment

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1—7½x10, 3-drum Mundy with Ohio boiler.
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1—8½x10, 3-drum Flory with boiler.
1—14x18 Lidgerwood, single drum, reversible haulage engine.
1—10x12, 2-drum Lambert with boiler.
2—6½x8 D. C. S. D. Lidgerwood Skeletons.
1—8½x10, 2-drum American with swinger. Various other sizes and types.

PILE HAMMERS

1—Each McKiernan No. 1, 2, 3, 6 and 7.

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1—No. 106 Smith Side Loader, Gasoline Engine.
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1—No. 0 Thew, ¾-yd. traction wheels; excellent condition.

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Chestnut Poles for electric light, railway and telephone lines. Also Hardwood Lumber.

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LOCOMOTIVE CRANES

Cars, Steam Shovels, Locomotives, Etc.

For Practically Immediate Shipment

- 1—30-ton, 8-wheel truck Browning Locomotive Crane, 55-ft. Boom. Separate Rotating Engines, etc. Strictly modern Crane. Little used. Good as new.
- 1—20-25-ton, 8-wheel truck Browning Locomotive Cranes, 50-ft. Booms, equipped with Separate Rotating Engines, etc., strictly modern Cranes, used only few months. NOTE: These Locomotive Cranes are also equipped with special Steam Shovel Booms, fitted with Thrusting Engines, Dipper Arms, Buckets, etc., making these machines Combination Locomotive Cranes and Steam Shovels, and adaptable to a great variety of operations. Immediate shipment.
- 1—20-ton, new 8-wheel truck Browning Locomotive Crane, 50-ft. Boom, having separate rotating engines. This Crane is new, never used. Immediate shipment.
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- 1—15-ton, 8-wheel truck Brown Hoist Locomotive Crane, 50-ft. Boom. Fine order. Little used, splendid machine.
- 1—15-ton, 4-wheel truck Browning Locomotive Crane, 38-ft. Boom. First-class condition, right out of shops.
- 1—15-ton, 4-wheel truck McMyler Locomotive Crane, 35-ft. Boom. Just overhauled, like new.
- 1—15-ton, 8-wheel truck Industrial Locomotive Crane, used very little. Just overhauled.
- 1—10-ton, 8-wheel truck American Hoist & Derrick Co. Locomotive Crane, 38-ft. Boom. Little used, strictly A-1 machine.

- 1—18x24, 6-wheel Baldwin Standard Gauge Switcher, right out of shops, thoroughly overhauled.
- 1—18x24, 4-wheel Baldwin Standard Gauge Switcher. Strictly modern locomotive; finest kind of condition.
- 1—14x20, 4-wheel Porter Saddle Tank, Standard Gauge Switcher. Just overhauled, A-1 condition.
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- 25—60,000 capacity Railroad Hopper Bottom Gondola Cars. Completely overhauled. M.C.B. equipment.

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RAILROAD AND CONSTRUCTION CARS. ALL TYPES
 Flat, Box, Gondola, Ore, Dump Cars, Interurban Cars, Passenger Coaches, etc.
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Shops and Storage Yards at Chicago

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70 C. Bucyrus.
 Model 70 Bucyrus.
 Model 45 Bucyrus.
 Model 60 Marion.
 2 Marion-Osgood, 185.
 2 No. 0 Thews, like new.
 Keystone Excavator.

LOCOMOTIVES

2—25-ton 4-wheel S. T. standard gauge.
 2—9x14 4-wheel S. T. 36" gauge.
 1—40-ton Climax, standard gauge.
 2—10x16 4-wheel S. T., 36" gauge.

DUMP CARS

20—2-way 4-yd. 36" Westerns.
 10—2-way 4-yd. 36" K. & J.
 25—1-way 4-yd. 36" So. Baltimore.
 16—1-way 6-yd. standard gauge.

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8x12 D. C. D. D. Mundy Skeleton.
 9x12 D. C. D. Buffalo Skeleton with
 swinger.
 8x10 D. C. D. National with boiler and
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 100 tons 45-lb. Rails with fasteners.
 3-yd. Smith Concrete Mixer, Engine, Boiler,
 side loader on wheels.
 Everything for the Contractor.

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- 1—80 K. W. Westinghouse Generating Set.
- D. C. to Harrisburg tandem compound automatic engine.
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- 1—J. J. Case 10-ton Combination Tractor and Road Roller and 2 American Log Loaders.

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- 1—No. 5 McCully.
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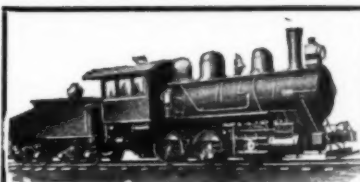
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One 20-ton 8-wheel 45-foot boom Browning Locomotive Crane. Crane is M. C. B. equipped, also equipped to handle a bucket, is in first-class condition, having been thoroughly overhauled and is ready for immediate service.

One 20—25-ton Industrial 8-wheel 50-foot boom bucket operating Locomotive Crane. Crane has a 1½-yard Hayward Clam Shell Bucket, has been completely overhauled and is ready for immediate service; has a new steel house, boom is so arranged so that it can be made into a 38-foot.

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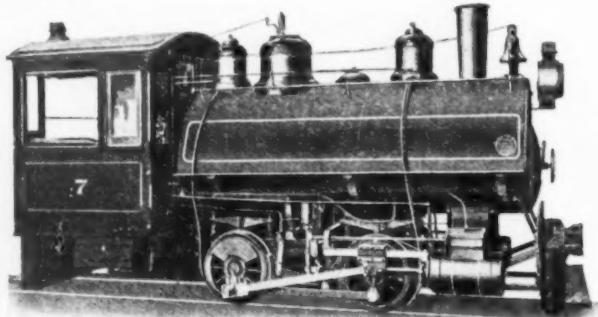
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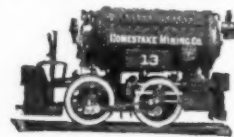
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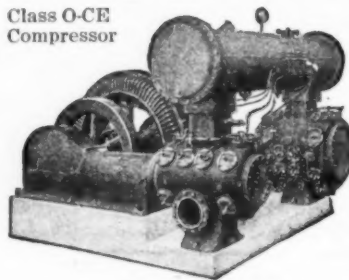
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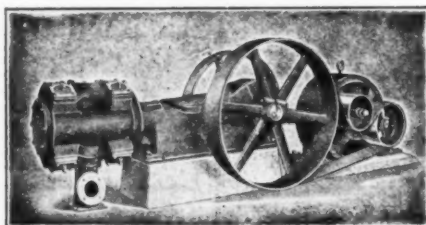
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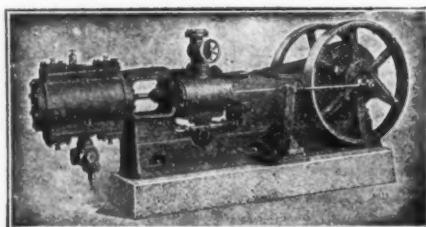
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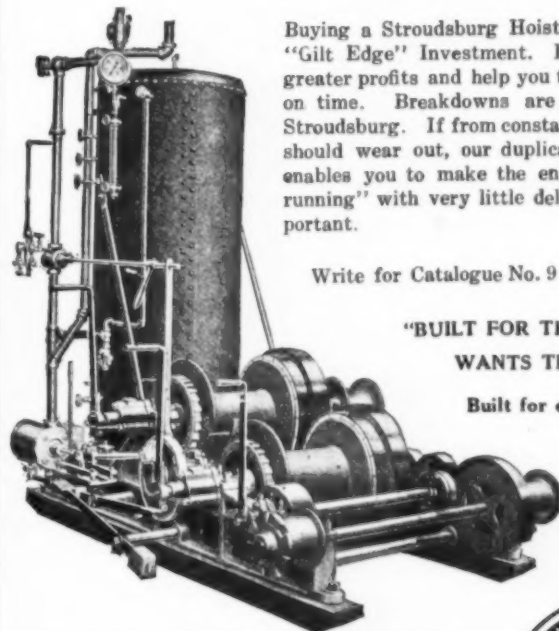
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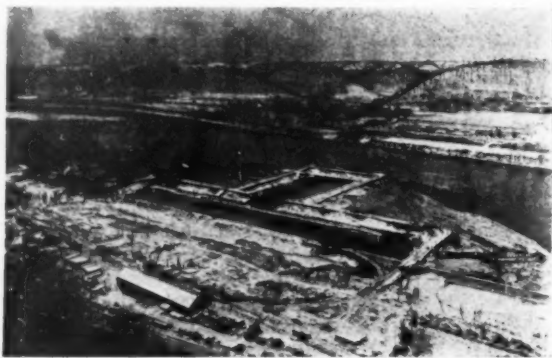


Fig. 1

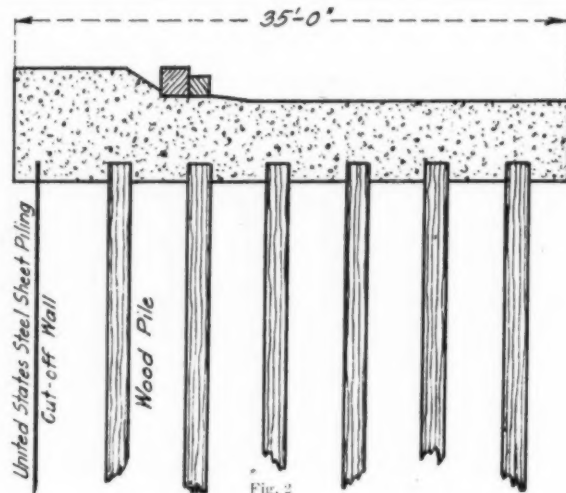


Fig. 2

The new Lock and Dam No. 33 is being built on the Ohio River at Maysville, Ky., by the Bates & Rogers Construction Company, for the United States Government.

Fig. 1 shows a general view of the work in course of construction.

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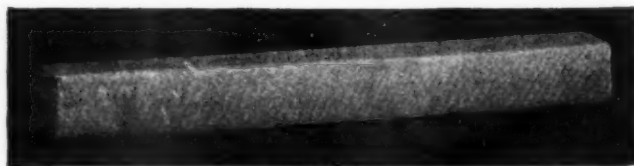


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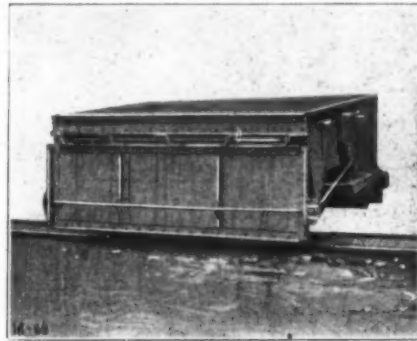
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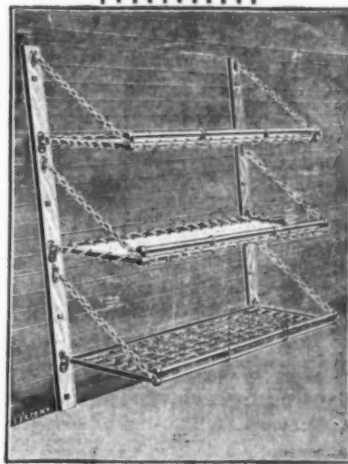
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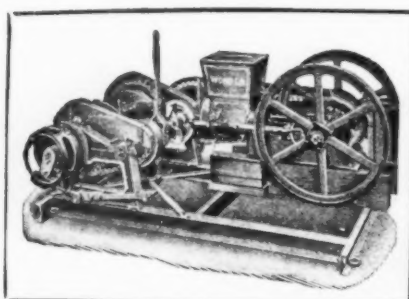
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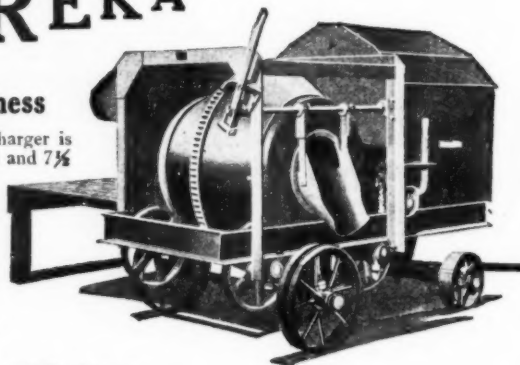
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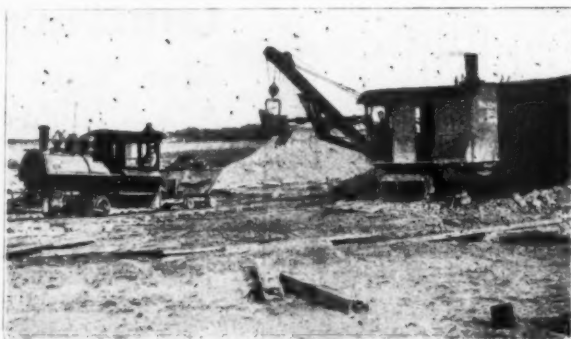
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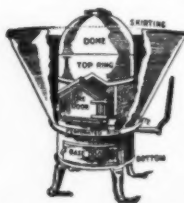
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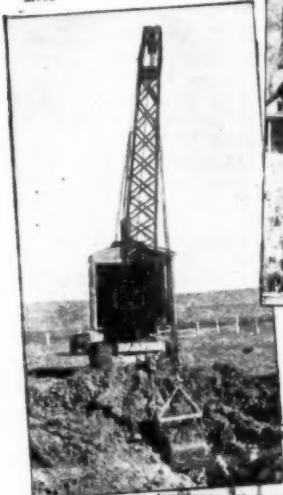
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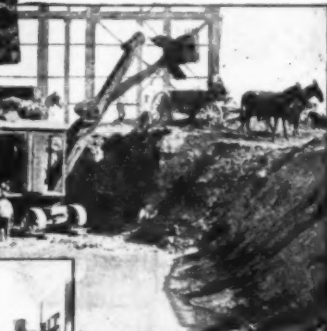
TRENCH MACHINE. (26 ft. dipper stick) Digging from 200 to 300 cu. yards a day in 16 feet trench cut. One of two Eries owned by Miller Bros., Youngstown, Ohio.



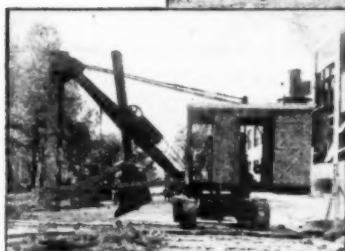
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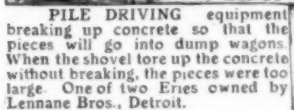
ORANGE-PEEL. One of three Eries owned by Robert Swan Jr. Co., Pittsburgh. The other two Eries are equipped for standard shovel work.



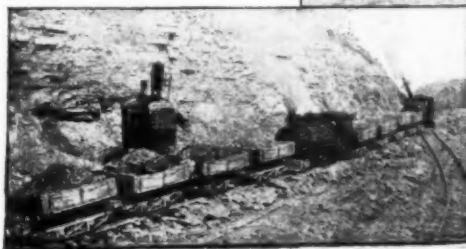
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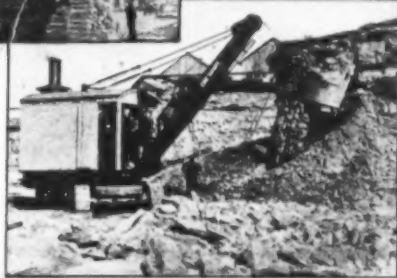
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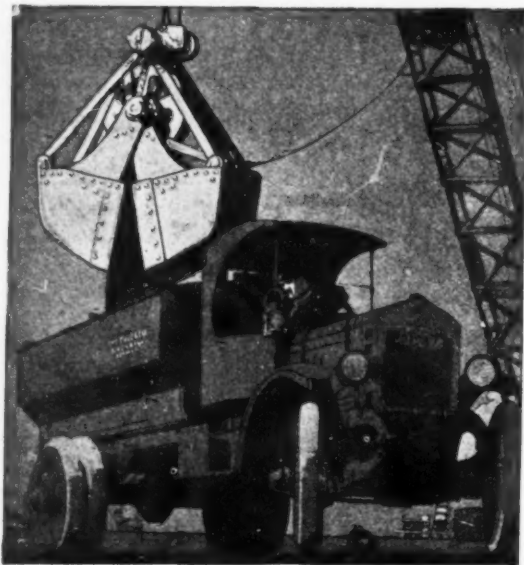
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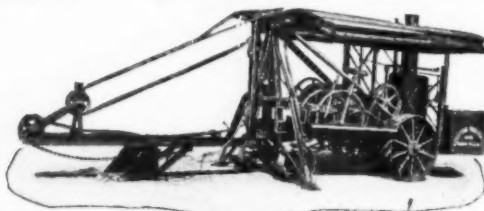
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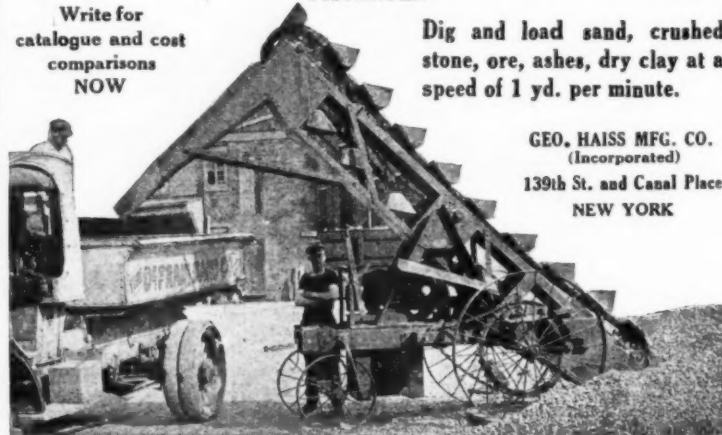
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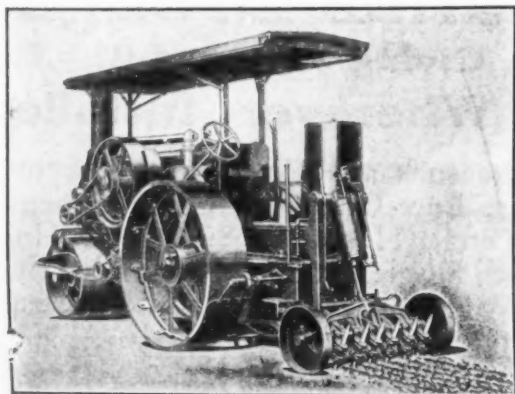
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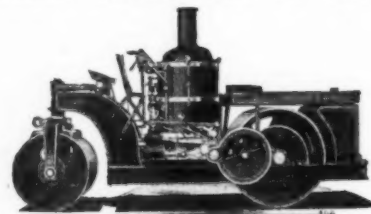
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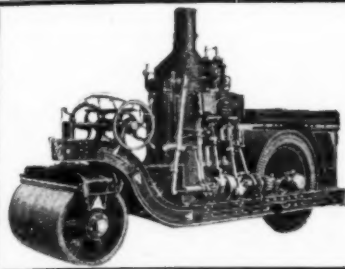
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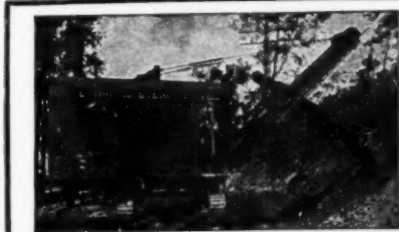
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BYERS SHIPBUILDING AUTO-CRANES Give Universal Satisfaction



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Excellent for Car Unloading,
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is conceded by the most capable judges to be the Peer of all Small Grands. Its indescribable beauty of tone, uniformity of touch, and the finest quality of materials, together with the 74 years of research and experience, places this instrument at the very Pinnacle of distinctiveness.

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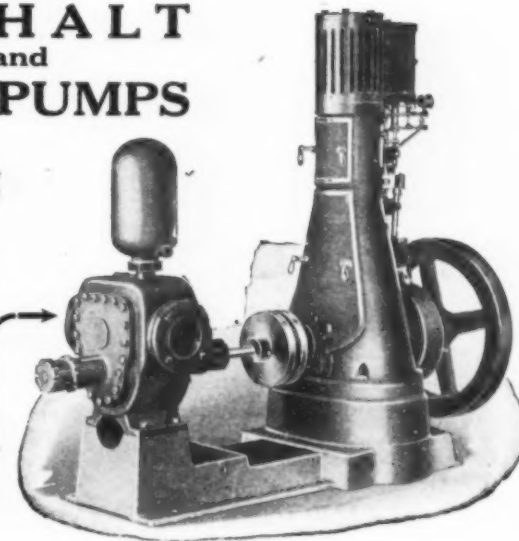
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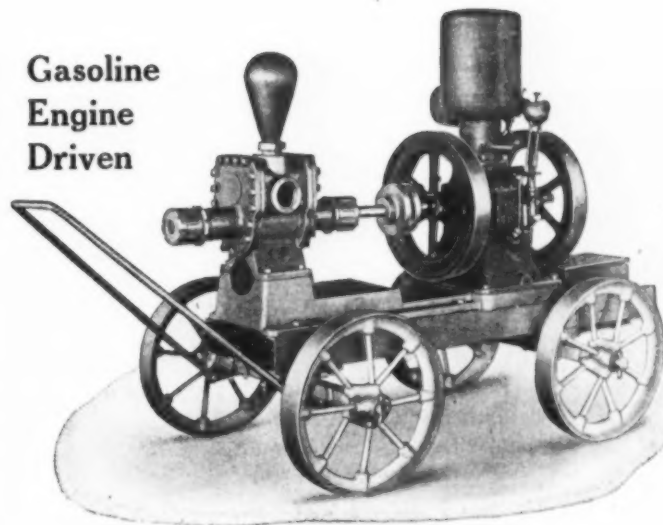
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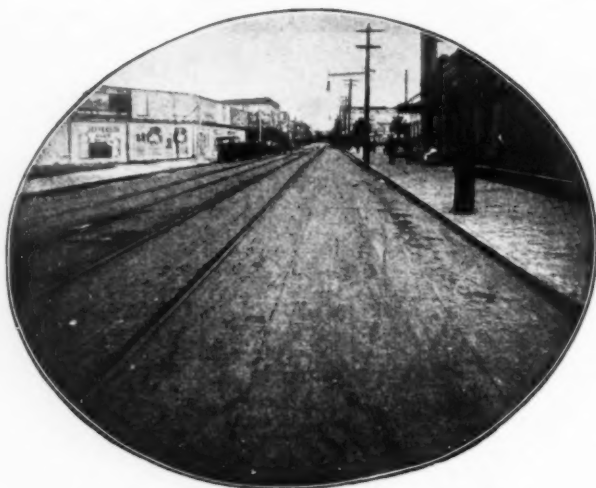
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MAIN OFFICE

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CAPACITY 40,000,000

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Vitrified Brick makes the real Dependable Roadway. Satisfactory Pavements are the best Municipal Asset.

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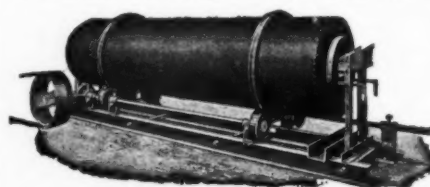
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The Rapid Sand and Gravel Washer

A light, simple and durable washer that takes the dirt out of sand, at the same time saves and makes money for you. The cylinder of the Rapid Washer is of heavy steel thoroughly riveted. The longitudinal angles and the tires around the cylinder are cast steel. The Trunnion wheels, having the most wear, are of manganese steel and good for a lifetime of service. The driving gears are placed out of reach of falling material; either straight or angle drive is furnished. The cylinder is mounted on structural steel frame.



One extra sprocket or pulley furnished to connect shaft with driving pulley.

If screens are desired, they will be furnished to attach to discharge end of washer, at reasonable prices.

Special circular with full description gladly on request.

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Sanitary, Waterproof,
Resilient.

Cushion filler for block pavements,—stone,
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AGASCO ROAD BINDER, for good and cheap paving of residence streets and suburban highways, has no superior. Holds road mass together, producing a smooth, resilient, and dustless pavement.

ATLANTA GAS LIGHT CO., : Atlanta, Georgia



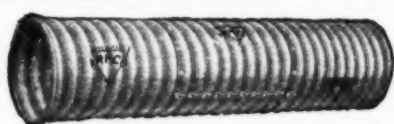
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Not Experiment But Experience
dictates the choice of

"ARMCO" (American
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Accept No Substitutes
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The CUMMER ROAD ASPHALT PLANT

Three Sizes. Three Units. Capacity 750, 1250 and 1800 Square Yards 2-inch Top or Macadam Daily

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Capacity 2000 Square Yards 2-inch Top or Macadam Daily

THE F. D. CUMMER & SON COMPANY, CLEVELAND, OHIO

Plants in Stock

Can Show Them in Operation

"ACME" (NESTABLE)

Corrugated
Anti-Corrosive



Galvanized
Culverts



Used at Camp Dix

THIS Wrightstown (N. J.) Cantonment placed an order for 1158 lineal feet of "ACMES" as follows: 262 ft. 12" diameter; 744 ft. 15" diameter; 72 ft. 18" diameter; 80 ft. 24" diameter.

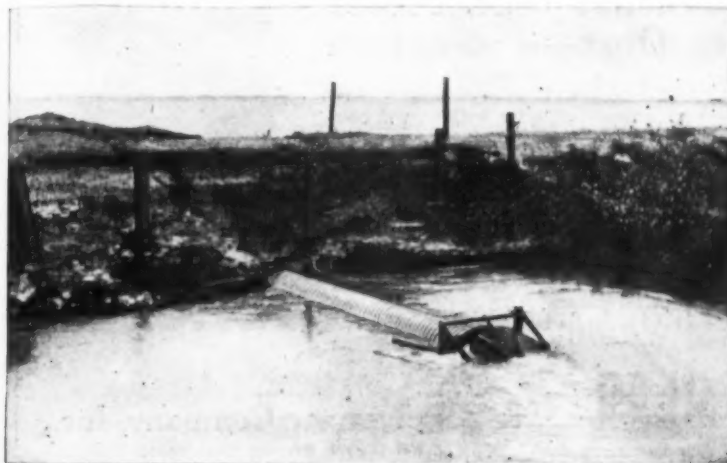
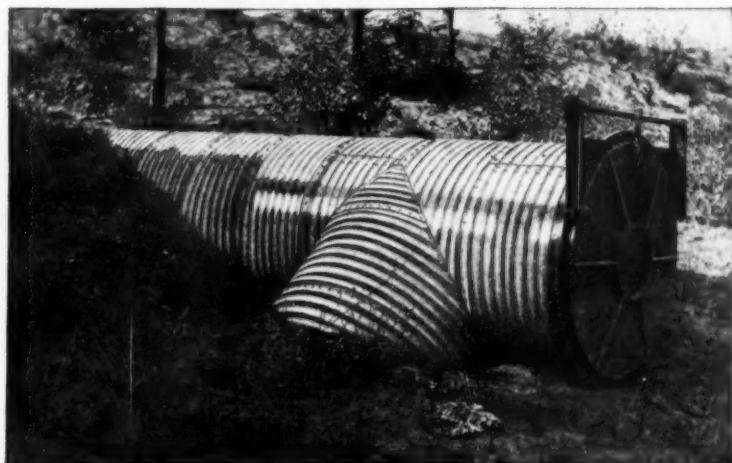
Delivery was made the day following receipt of order—Army Trucks calling at our Philadelphia warehouse for the Culverts, which were knocked down and nested.

Uncle Sam has been for eight years a steady user of "ACME" (Nestable) Corrugated Galvanized Anti-Corrosive NO-CO-RO METAL Culverts, and again called on them for service.

Shipped promptly. Set-up or knocked-down, as you prefer. Write for catalog.

THE CANTON CULVERT & SILO CO.
MANUFACTURERS
CANTON, OHIO, U.S.A.

Proposals advertised in the Manufacturers Record bring good results.



The Calco Automatic Drainage Gate

used in connection with

"Armco" Iron Corrugated Pipe



drains flooded or sodden lands with no expenditure for power or supervision

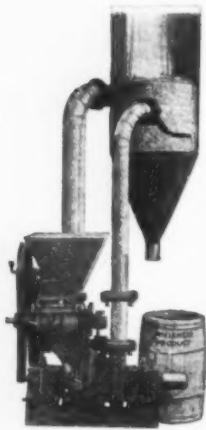
Lands protected by dikes or levees along waterways subject to flood conditions or near the seacoast and tidal rivers, are relieved of surplus water by these gates and pipes without trouble, supervision or expense save that of original installation. The valve is so counterbalanced as to operate with certainty as a result of but slight pressure, and is a

perfect protection against back flow. It NEVER FORGETS to adjust itself to the conditions.

"Armco" Iron Corrugated Pipe for this use has the merits which have been so well established in connection with highway and railroad drainage.

For full information on Automatic Drainage Gates and Rust-Resisting "Armco" Iron Culverts, Gates, Roofing and Formed Products, write

Armco Iron Culvert & Flume Mfrs. Association
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RAYMOND No. 0000
PULVERIZER

There Are Now 81 of These Mills in Actual Operation

Watch how the number grows and you will begin to realize why it is the best mill for small grinding requirements when handling all kinds of soft, dry materials which are used in Chemical, Dye, Paint and Rubber Manufacture.

You no doubt have these same small grinding requirements, and it will pay you to ask us what results you will obtain on a No. 0000 Mill.

Specifications of the No. 0000 Pulverizer:

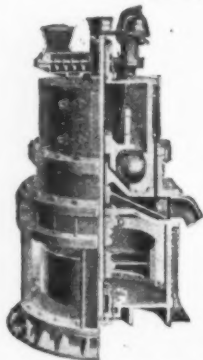
Small Size—Small Cost—Big Production.
Requires 5 H. P.
Produces 200 to 1000 pounds per hour, capacity depending upon material and fineness.
Grinds coarse as 50 mesh and fine as 200 mesh or finer.
Air Separation—No Screens.
Space required 4' x 4½'.

Send for special circular giving full description.

RAYMOND BROS. IMPACT PULVERIZER CO.

1304 N. Branch St., CHICAGO, ILL.

The Fuller-Lehigh Pulverizer Mill A Complete Self-Contained Grinding Unit



The Most Economical Mill for Producing

Agricultural Limestone,
Ground Phosphate Rock,
Powdered Coal for Heating
Industrial Furnaces.

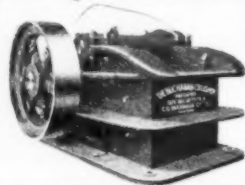
Reduces lump material to 20, 40, 60, 80, 100 or 200 mesh without requiring any outside accessory equipment.

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For Mines, Stone Quarries and
the Chemical Industry.

Crushing Plants complete in all details.

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Reliance Crushers

Are fully described in our
new CATALOG, which we send

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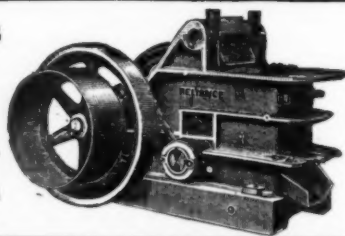
Universal Road Machinery Co.

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H. H. MEYER CO. Baltimore, Md.



Crushes 3-in. Pieces to Dust—in one operation

The K-B Pulverizer is designed to do a large amount of work with a small consumption of power, and does it.

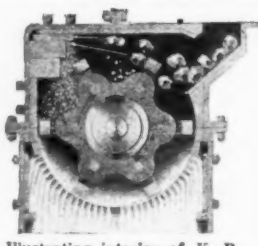
It will crush all moderately hard materials.

The U Type Manganese Steel Hammers may be adjusted so as to increase the hammer life while maintaining a uniform product, according to your requirements. Screens of various sized openings are available.

Whatever the material you want to crush, send samples and we will send figures. You will probably find them interesting.



K-B Pulverizer Company, Inc.,
86 Worth Street, New York



Illustrating interior of K-B Pulverizer while in operation

Illustrated Catalog on Request.

Automatic
Improved
For All Materials.

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Economical—Efficient
Great Capacity
American Process Co.
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FIRE and STEAM ROTARY DRYERS EVAPORATORS

LOUISVILLE DRYING MACHINERY CO.
Established 1890 LOUISVILLE, KENTUCKY

Indirect
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ROTARY DRYERS

Especially suitable for drying all kinds of GRANULAR MATERIAL

HERSEY MANUFACTURING CO.,

South Boston, Mass.

CRUSHERS

For Limestone in Cement, Lime and Agricultural plants; for Gypsum ahead of the Dryers; for Coal, either for coke oven, stoker, chain grates or industrial purposes; for Shale in brickyards; for Bones, either for case-hardening, glue or other purposes; for Shells for poultry feed and roofing purposes, and for many other materials which it is necessary to crush.

GRINDERS

For Limestone, Lime and Gypsum; for Coal ahead for finishing mills; for Clay in brick and terra-cotta plants; for Asphalt, Sand, etc.; for Tankage, Bone and all fertilizer materials; Oilcakes in Linseed and Cottonseed plants; for Nitre, Salt and other chemicals.

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SPECIAL

Soap Powder All Drug Material
Paper Stock and all Chemicals

PULVERIZERS

For all soft materials requiring reduction to a fine degree, such as Ochres, Colors, Soap Powder, Coal, Limestone, Lime, Gypsum, etc.

SHREDDERS

For Wood Pulp, Rags, etc., in paper and pulp mills; Bark, Logwood, Dyewood, etc., in tanning, extract and dye plants; Alfalfa, Hay, Herbage and Cereals of all kinds; Licorice Root and all fibrous material.

In short, we manufacture machines for every purpose for which CRUSHING, GRINDING, PULVERIZING AND SHREDDING MACHINERY is used for. To facilitate sending of proper literature we have divided the various materials in seven catalogs. When requesting catalog be sure to specify number as per table.

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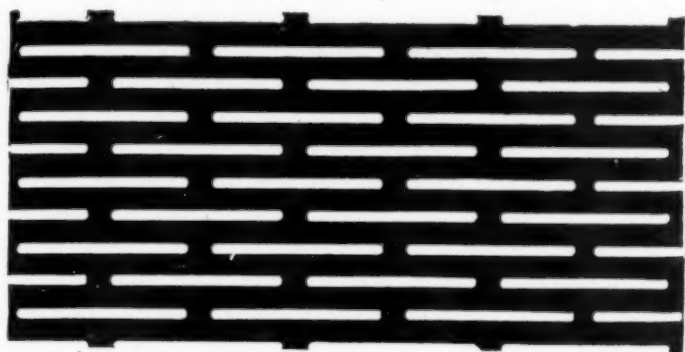
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| Stock Feed Cereals Alfalfa and all By-Products from Flour Mills | Coal Crushers for Coke Ovens Gas Plants and all Industrial Plants | Shredders Bark, Chips Wood Pulp Licorice Root and all Fibrous Material | Williams- Hickman System of Fine Grinding and Separation |

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Anything in Perforated Metal

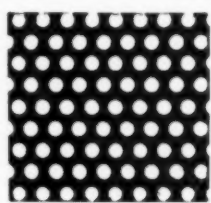
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every user of perforated metal.*

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Perforated Metal Screens

For Coal, Coke, Ore and Rock
ALSO FOR

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Elevator Buckets (Plain and Perforated)
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PERFORATORS

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Write for Copper, Brass, Tin, Zinc or Aluminum Catalog



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Send for Samples

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SINGLE ROLL CRUSHERS

FOR ROCK PHOSPHATE AND LIMESTONE

Capacity, 10 to 200 tons per hour for Coarse and Medium Fine Product

Ore Washers, Jigs, Elevators, Conveyors, Etc.

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for drying all kinds of
Lumber

35 years' experience

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CREOSOTED MATERIALS CO., INC.

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CREOSOTED POLES and CROSS-ARMS

ANY SIZE OR QUANTITY

THE EMPTY CELL-VACUUM PROCESS

Creosoted Cross-Arms guaranteed not to drip, saving of one-half cost over untreated timber.

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AMERICAN CREOSOTE WORKS, NEW ORLEANS, LA.

(INCORPORATED)

Creosoted Cross-Arms, Lumber, Paving Blocks, Piles, Poles and Ties.

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Capacity 100 million feet board measure

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Plant at New Orleans, La.

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PAVING BLOCKS, BRIDGE TIMBERS, CROSS

TIES, CROSS ARMS, PILING AND POLES

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ATLANTA, GA.

WOOD BLOCK PAVING

RAILWAY TIES AND TIMBERS

CROSS ARMS

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Twenty-eight miles from New Orleans, La., surrounded by the finest
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Creosoted Ties, Telegraph Poles, Cross-Arms, Timber, Piles and Paving Blocks

Capacity 22,000,000 feet per annum.

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Cable Address, Creosote, Slidell, La.

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LONG AND SHORT LEAF PINE

Rough and Dressed

(SAVANNAH, GA.)

Wire, Telephone or Write Us Your Needs



ESTABLISHED 1847

"STAR" MILLS

Equipped with ESOPUS STONES

Make the old-fashioned "WATER GROUND TABLE MEAL"

Write for prices and discount

B. F. STARR CO.

Baltimore, Md.



FLOUR MILL MACHINERY

Special Dust-tight Steel Elevator Heads, Legs and Boots,
Conveying Equipments, Rope Drives, Car Pullers,
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Flour and Feed Mill Machinery.

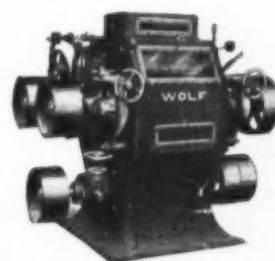
Corn Milling Machines a Specialty.

Flaking and Crushing Rolls.

Write

WOLF COMPANY, Chambersburg, Pa.

MODERN FLOUR AND FEED MILL
BUILDERS



The "Super Type"

OPPORTUNITIES IN THE SOUTH

—FOR—

Manufacturers, Investors, Merchants, Farmers and Homeseekers

In the following pages leading railroads and a number of towns and cities invite your attention to the opportunities possessed by the rapidly developing South for every line of industry, for investments, and as a place for home-making in the city and on the farm.

The marvel of the day, commanding the world's attention to a greater extent probably than the development of any other section has ever received, is the amazing material upbuilding of the South. Everywhere men in every walk of life are beginning to study the South. They are coming to realize something of its matchless resources, to know something of the opportunities which it presents for manufacturing and for mining operations, for city building activities, for the utilization on a large scale of the cut-over timber lands and the reclaimable wet lands of the South.

With a view to presenting to the world from week to week the resources and the growth and the opportunities which are offered for all of these things, some of the leading railroads of the South and Southwest, some of the great public service corporations intimately identified with the upbuilding of this section and some of its progressive towns and cities from week to week tell the story of what they have to offer to the manufacturer, to the investor, to the merchant, to the pleasure-seeker, to the health-seeker. Study the pages that follow, and if you are at all interested in knowing about the South and its opportunities, its resources and its progress, if you want to keep in touch with that section which is attracting greater attention than any other part of America, get in communication with the organizations whose advertisements are to be found in the following pages.

Attractive Factory Sites ON THE Illinois Central Railroad

For full particulars address the undersigned

FARM LANDS IN THE SOUTH ALONG THE ILLINOIS CENTRAL RAILROAD

No section of the country offers today a greater opportunity for profitable investment than Mississippi and Louisiana.

In this section of the South farming operations may be conducted the year round.

The proven results which have been attained by those Northern and Western farmers who have located on these lands and engaged in general farming, live stock raising and dairy farming all testify to the great possibilities in this section.

Write for pamphlets on Mississippi and Louisiana, addressing

G. B. HARPER

General Development Agent

ILLINOIS CENTRAL RAILROAD, Chicago, Ill.

Choice Factory Sites and Farm Lands

ALONG THE

Double Track "Richmond-Washington Line"

Equable climate, good schools, reasonable labor, low freight and passenger rates, splendid transportation facilities.

W. P. TAYLOR, Traffic Manager

Richmond, Va.

THE WEST POINT ROUTE

Atlanta & West Point Railroad

THE WESTERN RAILWAY OF ALABAMA

Offers excellent locations for

Truck, Fruit, Stock and General Farming

Available Factory Sites. Abundance of Raw Material and Good Transportation Facilities.

Write for information.

E. S. CENTER, General Agent, ATLANTA, GA.

J. P. BILLUPS, G. P. A., ATLANTA, GA.

GEORGIA RAILROAD

Excellent Passenger and Freight Service Offers Splendid Locations for Truck, Fruit, Stock and General Farming.

Many Available Manufacturing Sites in Advantageous Localities.

J. P. BILLUPS, General Passenger Agent
ATLANTA, GA.

"We saw your advertisement in the Manufacturers Record"

Start your letter that way when writing the advertisers in this paper. It will be appreciated alike by the advertiser and the paper.

Brevard, N. C.

OFFERS

Choice Factory Sites

and many other advantages to large and small Manufacturers.

Free Sites

Healthful Community

Get in touch now with

BREVARD CLUB

THOS. H. SHIPMAN, Chairman Publicity Committee

BREVARD, N. C.



Port Arthur, Texas, Gulf Terminal, The Kansas City Southern Ry.

THE KANSAS CITY SOUTHERN RAILWAY COMPANY

Offers
Attractive
Locations
for:

Factories in Gas Belt of Arkansas, Oklahoma and Louisiana. Minerals in Missouri and Arkansas to be mined and smelted. Coal fields for development in Kansas, Oklahoma and Arkansas. Unlimited resources of timber for sawmills, paper-pulp mills and naval stores. At Gulf for ship-building and other concerns requiring location on deep water. For cotton mills and cottonseed-oil mills. Clays and shales for manufacturing brick, cement, etc. Enormous quantities of slate suitable for roofing and other purposes. Oil lands for development.

This Road traverses an ideal Farming Section in Missouri, Arkansas, Oklahoma, Louisiana and Texas, where low-priced lands can be secured in a country of abundant rainfall and healthful climate.

Descriptive booklets: LAND OFFERINGS, GULF COAST, describing West Louisiana and East Texas, OZARK and OKLAHOMA booklets can be had by addressing

Development Department, THE KANSAS CITY SOUTHERN RAILWAY COMPANY, Kansas City, Mo.

Southern Railway System Development Service



The Southern Railway System and Associated Lines (Mobile & Ohio Railroad, Southern Railway in Mississippi and Georgia Southern & Florida Railway), through their Development Service will give every possible co-operation and assistance to manufacturers who desire factory locations in the South and to operators who wish to develop coal, iron, marble, granite, clay or other mines and quarries.

Glue Factory Location

At a leading Gulf city the large amount of fish heads and other sea food waste now thrown away and animal waste matter from a new packing house afford a splendid opportunity for the establishment of a glue factory. Figures as to amount of material available and other information will be furnished on request by interested party. Refer to File No. 58992.

Cooperage Opportunity

Business men of a good Southern town in which there is a large demand for lard tubs, tierces, baskets, crates, etc., wish to get in touch with a man who thoroughly understands the cooperage business and who will furnish some of the capital for establishing a plant for making these things. The timber supply is near at hand. Refer to File No. 59018.

M. V. RICHARDS, Commissioner
Room 52, Southern Railway System
Washington, D. C.



THE IDEAL LOCATION

The manufacturer in considering a new location for his factory should select a location where the lowest possible operating costs would be obtained.

- 1st—Its climatic conditions, where it is possible to operate 24 hours per day all the year. This means an even temperature. The climate of North Charleston is tempered with the breezes from the Gulf Stream, cool in summer and delightful in winter.
- 2nd—Ample facilities for the quick delivery of raw material to the factory and the finished product to the consumer are available at North Charleston. Three railroads—the Atlantic Coast Line, Southern and Seaboard. In addition, note the water front direct to the ocean (15 miles).
- 3rd—A location where attractive homes can be obtained for the workmen and their families, pleasant homes, with schools, churches, parks and picnic grounds, with an ample supply of pure water. Labor troubles unknown.
- 4th—A location where it is possible to obtain electric light and power at low rates. Direct lines from the New Electric Station to North Charleston, with ample capacity. Street car accommodations to all parts of the city of Charleston.
- 5th—We believe North Charleston is the ideal location for Manufacturers and their employees. A visit will convince you.

Address

NORTH CHARLESTON CORPORATION
Charleston, South Carolina

To the

MANUFACTURER and DISTRIBUTOR

Abundant supplies of coal, coke, iron, timber and other raw materials lie in the regions of Georgia and Alabama, which are traversed by the

Central of Georgia Railway

Cheap electric power, numerous undeveloped water-powers, good home markets and excellent shipping facilities. Therefore, manufacturing conditions are ideal.

Many of the cities on the Central of Georgia Railway occupy advantageous positions for distributing warehouses, and a number of the larger northern and eastern manufacturers supply their southeastern trade from branch houses in these cities.

Full and detailed information upon application.

J. M. MALLORY, Industrial Agent
SAVANNAH, GEORGIA

Splendid Openings for Manufacturers In Atlantic Coast Line Territory

Cities located on or close to deep water enjoy unusual manufacturing advantages because of the broader range of shipping facilities available.

Not only do they have the rail lines that interior points possess, but they have water lines that make possible shipment of goods both along the coast and to foreign ports, thus greatly increasing the range of trade it is possible to develop.

The Atlantic Coast Line, extending from Virginia to Southern Florida, and reaching over into Alabama, touches all the leading ports along the South Atlantic Coast, including Norfolk, Wilmington, Charleston, Port Royal, Savannah, Brunswick, Jacksonville and Tampa, and also many other important cities close to the coast.

In each one of these cities there exists opportunities for varied lines of manufacture, based upon raw materials available at close hand or quickly assembled from the diversified resources of the back country.

Considering how the industrial activities of these coastal towns are rapidly expanding and as our foreign trade is certain to steadily grow, how these cities are bound to grow accordingly—there never was a more opportune time to study the openings offered for manufacturers in the South Atlantic and Gulf Coast cities.

Being in close touch with conditions throughout this rich, thriving territory, we shall be glad to give any information desired to those interested in investigating conditions outlined.

ATLANTIC COAST LINE

"The Standard Railroad of the South"

W. J. CRAIG, Passenger Traffic Manager, Wilmington, N. C.

Florida Invites You

"For the first time in life I feel like I am out of prison and really living"

This is a statement made last year by a man who the year before gave up his job as foreman of a big Western machine shop and located on the East Coast of Florida and went into raising oranges and early vegetables.

His enthusiasm over the freedom of the life and the joy of living as compared with his long experience as a machinist and afterwards as foreman is only in keeping with the joy that would fill the lives of tens of thousands of others if they should follow his example and leave the confining indoor life of the shop and get the broader, sweeter life of outdoors in a climate such as that afforded by Florida, with opportunities for making a comfortable living such as are found in this favored region.

When asked as to how he enjoyed the climate, this ex-machine shop foreman said:

"My home was in Ohio. I have lived here since last Spring. Last Summer was the most comfortable Summer I ever spent in my life. My home is near the Halifax River, and throughout the day and night we had a constant breeze, and when I got through the day's work, tired and dirty, a change of clothes and a seat on the porch with a river breeze ever blowing made me feel that I was out of prison and really living."

Down the East Coast of Florida, stretching through a region 400 miles in length, are to be found thousands of people who, for the reasons given by this man, or for health or pleasure, or the making of a living, have found the peace and contentment and prosperity which he has found here.

In this favored region, where the summer climate is by many thought to be the very best of the year; where winter sunshine is the rule and not the exception; where outdoor life under the very best of conditions is attractive every day of the year; where a succession of crops can be grown from January to December and something for the market always available, there are attractions and advantages and

opportunities such as can be found in few other places in all the wide world.

These statements, moreover, are tremendously emphasized by the fact that from early fall until late spring tens of thousands of the leaders in American industry and finance seek this region for its climatic advantages and its many other attractions.

These men of mighty affairs in industry and finance are abundantly able to seek out the most attractive regions in the world.

The fact that year after year they come to the East Coast of Florida, after having tried nearly all other lands, is a constant proof, and the highest that could be given, that here they find conditions not matched elsewhere in this or any other land.

Call the roll of the great leaders in industry and the bankers and the railroad people of the country every winter, and you will find that a very large proportion of them will respond from Florida, because they have sought in Florida to find rest and recreation and freedom from the bitter blasts of blizzards of the North and West, which mean sickness and death to so many who cannot get away.

Thus the mechanic or the shop foreman, seeking the outdoor life and the chance to make a living, and

The multi-millionaire, seeking the best to be found in climatic advantages, alike select the East Coast of Florida.

If you have not studied this situation from the standpoint of a prospective settler or that of the tourist, if you have not thought of what it means in health and strength and lengthened life to spend a few weeks or the rest of your life in such a favored region, write for information about the various towns and opportunities along the East Coast of Florida.

FLORIDA EAST COAST RAILWAY

(FLAGLER SYSTEM)

J. E. INGRAHAM, Vice-President

ST. AUGUSTINE, FLA.

Here's a Splendid Chance

— FOR —

GLASS MANUFACTURERS

High Grade Raw Materials, Cheap Gas, Good Labor.
All Abundant at Well Located Sites for Factories.

The Clinchfield territory, in the heart of the Appalachian Mountains, offers glass manufacturers one of the best locations of the country for this industry.

Not only are all the needed raw materials available in high quality and abundance, but they are so situated that they can readily be assembled at remarkably low rates as to mining and transportation.

Study These Convincing Facts:

RAW MATERIALS—

High Grade Glass Sand (99.9% Silica).
High Calcium Quick Lime.
High Calcium Hydrated Lime.
Precipitated Calcium Carbonate.
Dolomitic Lime.
Feldspar of desired quality.
Soda Ash from nearby manufacturer.

All these raw materials have been thoroughly analyzed and tested and have been proven to be admirably adapted for the manufacture of all grades of glass products.

FUEL—

The great Clinchfield coal fields, which have been broadly developed, can supply all requirements of high quality coal, thoroughly adapted to making a producer gas that will closely rival natural gas as to quality and quantity. Cheap gas will also be available from a new plant now building to produce a special fuel by a new process.

LABOR—

The labor situation will be found exceptionally good, with a large quantity of tractable white labor from the mountain section to draw upon.

CLIMATE—

A desirable feature of this location is the splendid, invigorating mountain climate, without excessive heat in summer or excessive cold in winter.

MARKETS—

Glass factories located in the Clinchfield territory will have the advantage of readily reaching into the South with their products. This great section, which has comparatively few glass plants, offers a steady and increasing market for all kinds of glassware. The Clinchfield connects with the leading trunk lines of the South, thus affording ready distribution to all important trade centers in the Southern States.

Detailed information and data bearing upon splendid openings available in the Clinchfield territory for glass factories will be gladly furnished to those interested in studying this opportunity.

V. V. KELSEY, Industrial Agent

Carolina, Clinchfield and Ohio Railway
JOHNSON CITY, TENNESSEE

Suggestions to Financial Institutions

In the past two issues of this paper we have told you something of the production and financial situation in the South, or cotton-growing States, as a whole.

The Seaboard serves the six States of Virginia, North Carolina, South Carolina, Georgia, Florida and Alabama. The progress in these six States in greater crop production may be taken as typical of the growth and development in all lines of endeavor, and we feel that we have had no small part in this development, for every person connected with the Seaboard, from S. Davies Warfield, the Chairman of our Board of Directors, down to the Roadmasters and Section Foremen, have unselfishly labored for the broad development of the South.

That this policy has been resultful, we point out the corn production for 1917 as follows:

| Virginia | North Carolina | South Carolina | Georgia | Florida | Alabama |
|------------|----------------|----------------|------------|------------|------------|
| 66,792,000 | 69,195,000 | 45,795,000 | 70,560,000 | 13,594,000 | 89,014,000 |

Which shows an increased production over 1916 as follows:

INCREASE IN BUSHELS OVER 1916

| Virginia | North Carolina | South Carolina | Georgia | Florida | Alabama |
|-----------|----------------|----------------|-----------|-----------|------------|
| 6,000,000 | 6,000,000 | 13,000,000 | 8,000,000 | 1,000,000 | 43,000,000 |

The increase in tobacco in these six States was over 85,000,000 pounds, the cotton increase was enormous, and velvet beans and other legumes, livestock, potatoes and all farm products showed the results of the fostering aid of Government, State and railroad agencies.

And the end is not yet. Next year we shall astound the world with the South's production, for the South is the section capable of showing increased production worth while.

Financial institutions getting a foothold now, and fostering this growth, will surely reap where they sow.

SEABOARD

Air Line Railway Company

"The Progressive Railway of the South"

NORFOLK, VA.

For further information, address
B. L. HAMNER,
General Development Agent,
Norfolk, Va.

- Abrasive Materials.**
Carborundum Co., Niagara Falls, N. Y.
Vitrified Wheel Co., Westfield, Mass.
- Accountants. (Certified Public.)**
Alabama Audit Co., Montgomery, Ala.
Baltimore Audit Co., Baltimore, Md.
Black & Co., Baltimore, Md.
State Public Service Utility Audit & Investigating Co., Inc., Charleston, W. Va.
- Accumulator. (Hydraulic.)**
The French Oil Mill Mch. Co., Piqua, Ohio.
- Air Conditioning Apparatus.**
Carrier Engineering Corp., New York, N. Y.
- Air Compressors. (Stationary and Portable.)**
Chicago Pneumatic Tool Co., Chicago, Ill.
De La Vergne Machine Co., New York, N. Y.
General Electric Co., Schenectady, N. Y.
Hardie-Tynes Mfg. Co., Birmingham, Ala.
Ingersoll-Rand Co., New York, N. Y.
Nagle Corliss Eng. Wks., Erie, Pa.
Sullivan Mch. Co., Chicago, Ill.
Westinghouse Traction Brake Co., Wilmerding, Pa.
Worthington Pump & Mch. Corp., New York, N. Y.
Zin-Ho Mfg. Co., Chicago, Ill.
- Aluminum Products. (Bars, Sheets, Tubes.)**
Aluminum Company of America, Pittsburgh, Pa.
Stimpson Co., Edwin H., Brooklyn, N. Y.
- Ammonia Valves and Fittings.**
Frick Co., Waynesboro, Pa.
York Mfg. Co., York, Pa.
- Anti-Friction Metals.**
Bailey-Lebby Co., Charleston, S. C.
Dodge Sales & Engineering Co., Mishawaka, Ind.
Merchant & Evans Co., Philadelphia, Pa.
More-Jones Brass & Metal Co., St. Louis, Mo.
- Architects.**
Milburn, Heister & Co., Washington, D. C.
Serrine, J. E., Greenville, S. C.
Stanton, Wm. A., Vicksburg, Miss.
- Architects. (Landscape.)**
Burnap, Geo., Washington, D. C.
Speed, Wm., Louisville, Ky.
- Architects' Supplies.**
Starrett Co., L. S., Athol, Mass.
Weber & Co., F., Philadelphia, Pa.
- Architectural Iron Work.**
Bolles Iron & Wire Wks., J. E., Detroit, Mich.
Chattanooga Hfg. & Fdry. Co., Chattanooga, Tenn.
Chesapeake Iron Works, Baltimore, Md.
Dietrich Brothers, Baltimore, Md.
Snead Architectural Iron Wks., Louisville, Ky.
- Armature Winding.**
Charlotte Electric Repair Co., Charlotte, N. C.
- Art Glass.**
Hinswanger & Co., Memphis, Tenn.
- Asbestos.**
Southern Asbestos Mfg. Co., Inc., Richmond, Va.
- Asbestos Products.**
Asbestos Protected Metal Co., Pittsburgh, Pa.
Johns-Manville Co., H. W., New York, N. Y.
- Asbestos Roofing and Siding.**
Asbestos Protected Metal Co., Pittsburgh, Pa.
- Asphalt.**
Barber Asphalt Paving Co., Philadelphia, Pa.
Gulf Refining Co., Pittsburgh, Pa.
Standard Oil Co. of La., Baton Rouge, La.
Texas Co., The, New York, N. Y.
U. S. Asphalt Refining Co., New York, N. Y.
- Asphalt Filler.**
American Ballast Co., Knoxville, Tenn.
- Asphalt Heaters.**
Kinney Mfg. Co., Boston, Mass.
- Asphalt Mixers.**
Erie Machine Shops, Erie, Pa.
- Asphalt Paving Contractors.**
Southern Purchasing Co., Chattanooga, Tenn.
West Construction Co., Chattanooga, Tenn.
- Asphalt Paving Plants.**
Barber Asphalt Paving Co., Iroquois Wks., Buffalo, N. Y.
Cummer & Son Co., F. D., The, Cleveland, O.
East Iron & Machine Co., The, Lima, O.
Ruggles-Coles Engineering Co., York, Pa.
Warren Bros. Co., Boston, Mass.
- Asphalt Repair Plants.**
Barber Asphalt Paving Co., Iroquois Wks., Buffalo, N. Y.
Ruggles-Coles Engineering Co., York, Pa.
- Auctioneers.**
Conant & Co., J. E., Lowell, Mass.
Freeman & Co., Samuel T., Phila., Pa.
- Auditors.**
Alabama Audit Co., Montgomery, Ala.
Baltimore Audit Co., Baltimore, Md.
Black & Co., Baltimore, Md.
State Public Service Utility Audit & Investigating Co., Inc., Charleston, W. Va.
- Automobile Accessories.**
Bailey-Lebby Co., Charleston, S. C.
Booth Felt Co., Inc., Brooklyn, N. Y.
- Automobile. (Gasoline Passenger.)**
Peterson Motor Car Co., Cleveland, O.
- Awnings. (Office, Residences.)**
Walger Awning Co., Chicago, Ill.
- Babbitt Metal.**
Carolina Metal Co., Shelby, N. C.
- Backfillers.**
Amer. Cement Mch. Co., Inc., Keokuk, Iowa.
Waterloo Cement Mch. Corp., Waterloo, Iowa.
- Ballast. (Railroad.)**
American Ballast Co., Knoxville, Tenn.
Chickamauga Quarry & Con. Co., Chattanooga, Tenn.
Kirkpatrick Sand & Cement Co., Birmingham, Ala.
Weston & Brooker Co., Columbia, S. C.
- Bankers and Brokers.**
Cummings, Prudden & Co., Toledo, O.
Delaware Registration Trust Co., Wilmington, Del.
Edwards, Geo. B., New York, N. Y.
Electric Bond & Share Co., New York, N. Y.
Leach & Co., A. B., New York, N. Y.
Mercantile Trust Co., St. Louis, Mo.
National City Co., The, New York, N. Y.
New First National Bank, Columbus, O.
Nuyven & Co., John, Chicago, Ill.
Orkholm, Walter E., St. Louis, Mo.
Powell, Garard & Co., Chicago, Ill.
Provident Savings Bk. & Tr. Co., Cincinnati, O.
Ridenour Co., Hugh, Columbus, O.
Solter & Co., Sidney, Toledo, O.
Stanton & Co., W. L., Toledo, O.
Stacy & Braun, Toledo, O.
Townsend Scott & Son, Baltimore, Md.
- Banks.**
Bank of Alabama, Ensley, Ala.
First National Bank, Birmingham, Ala.
First National Bank, Richmond, Va.
Maryland Trust Co., Baltimore, Md.
National Exchange Bank of Baltimore, Baltimore, Md.
Mercantile Trust Co., St. Louis, Mo.
Merchants-Mechanics First Nat'l Bk., Balto., Md.
New First National Bank, Columbus, O.
Provident Savings Bk. & Tr. Co., Cincinnati, O.
Union Trust Co., Chicago, Ill.
- Bank and Office Railings and Grilles. (Iron.)**
Bolles Iron & Wire Wks., J. E., Detroit, Mich.
Dow Wire & Iron Wks., Louisville, Ky.
Dufur & Co., Baltimore, Md.
Dufur, Buggott & Co., Baltimore, Md.
Ludlow-Saylor Wire Co., St. Louis, Mo.
Meyers Mfg. Co., F. J., Hamilton, O.
Pipe Railing Const. Co., Long Island City, N. Y.
- Barges. (Steel.)**
American Bridge Co., New York, N. Y.
- Barium Products. (Binoxide, Chloride Hydrate, Nitrate, etc.)**
Rollin Chemical Co., Inc., Charleston, W. Va.
- Barium Sulphate. (Precipitated Blanc Fixe.)**
Rollin Chemical Co., Inc., Charleston, W. Va.
- Bar Iron. (Refined and Galvanized.)**
Bourne-Fuller Co., Cleveland, The, Ohio.
Carnegie Steel Co., Pittsburgh, Pa.
Lackawanna Steel Co., Lackawanna, N. Y.
Sci. Spr. Const. Material Co., New York, N. Y.
- Bars. (Steel Rounds, Flats and Squares.)**
Camden Forge Co., Camden, N. J.
Concrete Steel Co., New York, N. Y.
Gulf States Steel Co., Birmingham, Ala.
Swedish Iron & Steel Corp., New York, N. Y.
Sweet's Steel Co., Williamsport, Pa.
- Bars, Wire, Wire Fabric, etc. (For Reinforced Concrete.)**
Cincinnati Iron & Steel Co., Cincinnati, O.
Concrete Steel Co., New York, N. Y.
Corrugated Bar Co., Buffalo, N. Y.
Hoffman & Co., R. C., Inc., Baltimore, Md.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Laclede Steel Co., St. Louis, Mo.
Trussed Concrete Steel Co., Youngstown, O.
- Bearings. (Brass and Bronze.)**
More-Jones Brass & Metal Co., St. Louis, Mo.
- Bearings. (Graphite and Bronze.)**
Bound Brook Oil-less Brg. Co., Bound Brook, N. J.
- Bearings. (Oilless.)**
Bound Brook Oil-less Brg. Co., Bound Brook, N. J.
Metaline Co., Long Island City, N. Y.
- Belting.**
LEATHER, CANVAS, RUBBER.
Bailey-Lebby Co., Charleston, S. C.
Baltimore Belting Co., Baltimore, Md.
Cameron & Barkley Co., Charleston, S. C.
Chesapeake Belting Co., Baltimore, Md.
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Druid Oak Belting Co., Inc., Baltimore, Md.
Gandy Belting Co., Baltimore, Md.
Goodrich Co., B. F., Akron, O.
Goodyear Tire & Rubber Co., Akron, O.
Graton & Knight Mfg. Co., Worcester, Mass.
Main Belting Co., Philadelphia, Pa.
Schieren Co., Chas. A., New York, N. Y.
Smith-Courtney Co., Richmond, Va.
- CHAIN.**
Caldwell & Son Co., H. W., Chicago, Ill.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Co., Philadelphia, Pa.
Morris Chain Co., Ithaca, N. Y.
- Belt Cement.**
Graton & Knight Mfg. Co., Worcester, Mass.
Schieren Co., Chas. A., New York, N. Y.
- Belt Conveyors.**
Alvey-Ferguson Co., Inc., Cincinnati, Ohio.
Jeffrey Mfg. Co., Columbus, Ohio.
Robins Conveying Belt Co., New York, N. Y.
- Belt Dressing.**
Dixon Crucible Co., Joseph, Jersey City, N. J.
Gandy Belting Co., Baltimore, Md.
Graton & Knight Mfg. Co., Worcester, Mass.
Schieren Co., Chas. A., New York, N. Y.
- Belt Lacing. (Leather.)**
Graton & Knight Mfg. Co., Worcester, Mass.
Schieren Co., Chas. A., New York, N. Y.
- Berths and Bunks. (For Ships and Contractors.)**
Southern-Rome Co., Baltimore, Md.
- Bicarbonate Soda. (Sap Stain Lumber Dip.)**
Church & Dwight Co., New York, N. Y.
- Billnets. (Basic Open Heart.)**
Atlantic Steel Co., Atlanta, Ga.
Gulf States Steel Co., Birmingham, Ala.
- Blackboards. (Slate.)**
East Bangor Con. Slate Co., The, East Bangor, Pa.
Johnson, E. J., New York, N. Y.
- Blanc Fixe.**
Rollin Chem. Co., Inc., Charleston, W. Va.
- Blocks. (Chain.)**
Wright Mfg. Co., Lisbon, Ohio
- Blocks. (Paving Crenosoted.)**
American Crenosote Works, New Orleans, La.
- Block Filters. (Paving.)**
Barber Asphalt Paving Co., Philadelphia, Pa.
Barrett Co., New York, N. Y.
Standard Oil Co. of La., Baton Rouge, La.
U. S. Asphalt Refining Co., New York, N. Y.
- Blowers and Exhaust Fans.**
Buffalo Forge Co., Buffalo, N. Y.
Clargo Fan Co., Kalamazoo, Mich.
Clifton-Pratt Co., The, Cincinnati, O.
General Electric Co., Schenectady, N. Y.
Green Fuel Economizer Co., New York, N. Y.
National Blow Pipe & Mfg. Co., New Orleans, La.
Haymond Bros. Iron Works, Charlotte, Ill.
Savannah Blow Pipe Co., Savannah, Ga.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
- Blow Pipes.**
National Blow Pipe & Mfg. Co., New Orleans, La.
Shreveport Blow Pipe & S. I. Wks., Shreveport, La.
- Boiler and Tank Work.**
Schofield's Sons Co., J. S., Macon, Ga.
- Boilers.**
Abendroth & Root Mfg. Co., Newburgh, N. Y.
Babcock & Wilcox Co., New York, N. Y.
Cameron & Barkley Co., Charleston, S. C.
Casey-Hedges Co., Chattanooga, Tenn.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Mechanics Iron Works, Covington, La.
Harris Bros. Co., Chicago, Ill.
Hartley Boiler Works, Montgomery, Ala.
Lombard Iron Works, Augusta, Ga.
Lookout Boiler & Mfg. Co., Chattanooga, Tenn.
Mechanics Iron Works, Charlotte, N. C.
Murray Iron Works Co., Burlington, Ia.
Schofield Iron Works, Macon, Ga.
- Southern Boiler & Tank Wks., Memphis, Tenn.**
Union Boiler Co., Inc., Philadelphia, Pa.
Union Iron Works, Erie, Pa.
Valk & Murdoch Co., Charleston, S. C.
Vogt Machine Co., Inc., Henry, Louisville, Ky.
Walsh & Weldner Iron Co., Chattanooga, Tenn.
Zelnicke Supply Co., Walter A., St. Louis, Mo.
- Boiler Compound.**
Boiler-Kote Co., Chicago, Ill.
- Boiler Graphite.**
Dixon Crucible Co., Joseph, Jersey City, N. J.
- Bolts, Nuts, Rivets, Studs and Washers.**
Bethlehem Steel Co., South Bethlehem, Pa.
Cambria Steel Co., Philadelphia, Pa.
Hoffman & Co., Inc., R. C., Baltimore, Md.
Larkin & Co., J. K., New York, N. Y.
Milton Mfg. Co., Milton, Pa.
Progressive Mfg. Co., Torrington, Conn.
Republic Iron & Steel Co., Youngstown, O.
Stimpson Co., Edwin H., Brooklyn, N. Y.
Topping Bros., New York, N. Y.
- Bond Buyers.**
Cummings, Prudden & Co., Toledo, O.
Mercantile Trust Co., St. Louis, Mo.
Mercantile Trust & Deposit Co., Baltimore, Md.
Mississippi Valley Trust Co., St. Louis, Mo.
National City Co., The, New York, N. Y.
New First National Bank, The, Columbus, O.
Nuyven & Co., John, Chicago, Ill.
Powell, Garard & Co., Chicago, Ill.
Provident Savings Bk. & Tr. Co., Cincinnati, O.
Ridenour Co., Hugh, Columbus, O.
Solter & Co., Sidney, Toledo, O.
Stanton & Co., W. L., Toledo, O.
Stacy & Braun, Toledo, O.
Townsend Scott & Son, Baltimore, Md.
- Bonds. (Surety, etc.)**
Fidelity & Deposit Co. of Md., Baltimore, Md.
- Bottling Outfits.**
Vilter Mfg. Co., Milwaukee, Wis.
- Brass & Copper. (Tubes, Sheets, Rods, Wire, etc.)**
Hungerford Brass & Copper Co., U. T., Balto., Md.
- Brass Goods.**
Bailey-Lebby Co., Charleston, S. C.
Buckeye Iron & Brass Works, Dayton, O.
Lunkenheimer Co., The, Cincinnati, O.
- Brass Railing and Grilles.**
Hungerford Brass & Copper Co., U. T., Balto., Md.
Ludlow-Saylor Wire Co., St. Louis, Mo.
Newman Mfg. Co., Cincinnati, O.
- Brewers' Machinery.**
Vilter Mfg. Co., Milwaukee, Wis.
- Brick.**
ACID.
Heed Brick Co., B. Middle, Atlanta, Ga.
COMMON.
Brookhaven Pressed Brick & Mfg. Co., Brookhaven, Miss.
Georgia-Carolina Brick Co., Augusta, Ga.
Kingsport Brick Corp., Kingsport, Tenn.
ENAMELED.
Am. Enamelled Brick & Tile Co., New York, N. Y.
FACE.
Am. Enamelled Brick & Tile Co., New York, N. Y.
Brookhaven Pressed Brick & Mfg. Co., Brookhaven, Miss.
Georgia-Carolina Brick Co., Augusta, Ga.
Glasgow Clay Products Co., New York, N. Y.
Hood Brick Co., B. Middle, Atlanta, Ga.
Hydraulic Press Brick Co., St. Louis, Mo.
Kingsport Brick Corp., Kingsport, Tenn.
Standard Brick Co., Macon, Ga.
FIRE.
American Enamelled Brick & Tile Co., New York, N. Y.
Brookhaven Pressed Brick & Mfg. Co., Brookhaven, Miss.
Louisville Fire Brick Wks., Inc., Highland Park, Ky.
Penn & Kentucky Fire Brick Co., Bolivar, Pa.
Southern Refractories Co., Fort Payne, Ala.
Standard Brick Co., Macon, Ga.
Stevens Bros. & Co., Stevens Pottery, Ga.
Union Mining Co., Mt. Savage, Md.
PAYING.
Copeland-Ingis Shale Brick Co., Birmingham, Ala.
Dunn Wire-Cut Lug Brick Co., Conneaut, O.
Georgia-Carolina Brick Co., Augusta, Ga.
Southern Clay Mfg. Co., Chattanooga, Tenn.
Southern Paving Brick Mfg. Assn., Birmingham, Ala.
Standard Brick Co., Macon, Ga.
SILICA.
Southern Refractories Co., Fort Payne, Ala.
- Brick and Clayworking Mch. and Supplies.**
Chase Fdry. & Mfg. Co., Columbus, O.
Fennholtz Brick Machinery Co., St. Louis, Mo.
Freese & Co., E. M., Gallion, O.
Steele & Sons, J. C., Statesville, N. C.
- Bridges.**
CONCRETE.
Blodgett Construction Co., Shreveport, La.
ROLLING LIFT.
Scherer Rolling Lift Bridge Co., Chicago, Ill.
STEEL.
American Bridge Co., New York, N. Y.
Belmont Iron Works, Philadelphia, Pa.
Blodgett Construction Co., Shreveport, La.
Case Crane & Engineering Co., Columbus, O.
Champion Bridge Co., W. Wilmington, O.
Chesapeake Iron Works, Baltimore, Md.
Richmond Structural Steel Co., Richmond, Va.
Scherer Rolling Lift Bridge Co., Chicago, Ill.
Vincennes Bridge Co., Vincennes, Ind.
Virginia Bridge & Iron Co., Roanoke, Va.
- Bridge and Structural Iron Paints.**
Chattanooga Paint Co., Chattanooga, Tenn.
- Brimstone.**
Freepot Sulphur Co., Freeport, Texas.
- Buckets.**
CLAY SHEL.
Haise Mfg. Co., New York, N. Y.
Hayward Co., New York, N. Y.
Owen Bucket Co., The, Cleveland, O.
DREDGING, EXCAVATING, SEWERS, ETC.
Hayward Co., New York, N. Y.
Monaghan Mch. Co., Chicago, Ill.
Owen Bucket Co., The, Cleveland, O.
GRAB.
Hunt Co., Inc., C. W., West New Brighton, N. Y.
Link-Belt Co., Philadelphia, Pa.
ORANGE PEEL.
Hayward Co., The, New York, N. Y.
ONE HANDLING.
Caldwell & Son Co., W., Chicago, Ill.
Hayward Co., New York, N. Y.
- Buhr Stones.**
Starr Co., B. F., Baltimore, Md.
- Builders and Contractors.**
Austin Co., The, Cleveland, O.
Stewart & Co., R. K., South Boston, Va.
Stone & Webster Eng. Corp., Boston, Mass.
Washington Church Kerr Co., New York, N. Y.
White Companies, J. G., New York, N. Y.
- Builders' Hardware.**
Standard Mfg. Co., Shelby, Ohio.
- Buildings. (Pressed Steel.)**
Pruden Co., C. D., Baltimore, Md.
Trussed Concrete Steel Co., Youngstown, Ohio.
- Building Castings.**
U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.
- Building Supplies.**
Harris Bros. Co., Chicago, Ill.
Indiana Limestone Quarrymen's Assn., Bedford, Ind.
Southern Building Material Co., Norfolk, Va.
- Bunks. (For Contractors.)**
Southern-Rome Co., Baltimore, Md.
- Burners. (Acetylene and Gas.)**
Gregory Talc Co., Nashville, Tenn.
- Bushings. (Graphite, Bronze and Wood.)**
Bound Brook Oil-less Brg. Co., Bound Brook, N. J.
- Bushings. (Oilless.)**
Bound Brook Oil-less Brg. Co., Bound Brook, N. J.
Metaline Co., Long Island City, N. Y.
- Cables. (Copper Wire, etc.)**
Broderick & Bascom Rope Co., St. Louis, Mo.
- Cables and Wires. (Electric.)**
American Steel & Wire Co., Chicago, Ill.
Hawshaw Electric Cable Co., Inc., New York, N. Y.
Roebbing's Sons Co., John A., Trenton, N. J.
- Cableways. (Overhead, Suspension.)**
Broderick & Bascom Rope Co., St. Louis, Mo.
Flory Mfg. Co., S., Bangor, Pa.
Lidgerwood Mfg. Co., New York, N. Y.
- Can and Box Making Machinery. (Tin)**
Ams Machine Co., Max, Bridgeport, Conn.
Bliss Co., E. W., Brooklyn, N. Y.
- Canvas Preservative and Waterproofing.**
Robeson Preserve Products Co., Port Huron, Mich.
- Carborundum Paper and Cloth.**
Carborundum Co., Niagara Falls, N. Y.
- Cars. (Dump, Industrial, Logging and Mining.)**
Austin Mfg. Co., Chicago, Ill.
Chase Fdry. & Mfg. Co., Columbus, O.
Electric Wheel Co., Quincy, Ill.
Georgia Car & Locomotive Co., Atlanta, Ga.
Hunt Co., C. W., Inc., West New Brighton, N. Y.
Kilbourne & Jacobs Mfg. Co., Columbus, O.
Oliver Mfg. Co., Wm. J., Knoxville, Tenn.
Western Wheeled Scraper Co., Aurora, Ill.
- Car Unloaders.**
Bonney Supply Co., Inc., Rochester, N. Y.
- Car Wheels, Axles and Trucks.**
Carnegie Steel Co., Pittsburgh, Pa.
Oliver Mfg. Co., Wm. J., Knoxville, Tenn.
- Castings.**
ALUMINUM.
Aluminum Company of America, Pittsburgh, Pa.
BRASS AND BRONZE.
Bethlehem Steel Co., South Bethlehem, Pa.
Durham Fdry. & Mch. Wks., Durham, N. C.
McKenna Brass & Mfg. Co., Inc., Pittsburgh, Pa.
More-Jones Brass & Metal Co., St. Louis, Mo.
Salem Iron Works, Winston-Salem, N. C.
ELECTRIC FURNACE STEEL.
Treadwell Engineering Co., Easton, Pa.
GRAY IRON.
Altavista Foundry Co., Altavista, Va.
Caroline Fdry. Co., Baltimore, Md.
Chattanooga Hfg. & Fdry. Co., Chattanooga, Tenn.
Columbian Iron Works, Chattanooga, Tenn.
Columbus Iron Works Co., Columbus, Ga.
Culpeper Machine Co., Inc., Culpeper, Va.
Durham Fdry. & Mch. Wks., Durham, N. C.
Georgia Car & Locomotive Co., Atlanta, Ga.
Glasgow Pipe & Foundry Co., Lynchburg, Va.
Glascock Stove & Mfg. Co., Greensboro, N. C.
Hardie-Tynes Mfg. Co., Birmingham, Ala.
Hull's Sons, D. F., Hagerstown, Md.
Janney & Co., Montgomery, Ala.
Keanoke Iron & Bridge Wks., Inc., Keanoke, Va.
Salem Fdry. & Mch. Wks., Salem, Va.
Salem Iron Works, Winston-Salem, N. C.
Schofield's Sons Co., J. S., Macon, Ga.
Southern Fdry. Co., Owensboro, Ky.
U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.
Valk & Murdoch Co., Charleston, S. C.
Vogt Bros. Mfg. Co., Louisville, Ky.
Whitman Agricultural Co., St. Louis, Mo.
Wilmington Iron Works, Inc., Wilmington, N. C.
- MALEABLE IRON AND STEEL.**
Columbus Malleable Iron Co., Columbus, O.
Missouri Malleable Iron Co., East St. Louis, Ill.
- SEMI-STEEL.**
Janney & Co., Montgomery, Ala.
Salem Fdry. & Mch. Wks., Salem, Va.
Vogt Bros. Mfg. Co., Louisville, Ky.
Whitman Agricultural Co., St. Louis, Mo.
- STEEL.**
Bethlehem Steel Co., South Bethlehem, Pa.
Crucible Steel Castings Co., Landowne, Pa.
Hoffman & Co., Inc., E. C., Baltimore, Md.
Riverside Steel Casting Co., Newark, N. J.
Treadwell Engineering Co., Easton, Pa.
- Ceilings. (Metal.)**
Berge Mfg. Co., Canton, O.
Edwards Mfg. Co., Cincinnati, O.
Milwaukee Corrugating Co., Milwaukee, Wis.
- Cement. (Portland.)**
Cincinnati Portland Cem. Corp., Kingsport, Tenn.
Dixie Portland Cement Co., Chattanooga, Tenn.
Kirkpatrick Sand & Cement Co., Birmingham, Ala.
Kosmos Port. Cement Co., Inc., Louisville, Ky.
Southern States Port. Cem. Co., Rockmart, Ga.
Standard Port. Cement Co., Birmingham, Ala.
Virginia Port. Cement Co., Allentown, Pa.
- Cement Gun.**
Cement Gun Co., Inc., Allentown, Pa.
- Cement Gun Work.**
Cement Gun Co., Inc., Allentown, Pa.
- Cement Machinery.**
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Bradley Pulverizer Co., Allentown, Pa.
Lehigh Car. Wheel & Axle Works, Catasauque, Pa.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Traylor Eng. & Mfg. Co., Allentown, Pa.
- Chain Blocks.**
Ford Chain Block & Mfg. Co., Philadelphia, Pa.
Wright Mfg. Co., Lisbon, O.
- Chains.**
DREDGE, QUARRY, STREAM SHOVEL.
American Chain Co., Bridgeport, Conn.
Larkin & Co., J. K., New York, N. Y.
Topping Bros., New York, N. Y.
- SHROCKET.**
Link Belt Co., Philadelphia, Pa.
- Channellers.**
Ingersoll-Rand Co., New York, N. Y.

Chemicals.

Davison Chemical Co., Baltimore, Md.
Du Pont Chemical Works, New York, N. Y.
Hollis Chemical Co., Inc., Charleston, W. Va.

Chaplets.

Fanner Mfg. Co., The, Cleveland, O.

Chemists, Chemical Engineers.

ACIDS—INORGANIC.
Thiele, Ludwig A., Columbus, Ohio

ALCOHOL.

James & Breckler, Louisville, Ky.

CEMENT.

Davis, Geo. C., Philadelphia, Pa.
Freuchling & Robertson, Richmond, Va.
Hunt & Co., Robert W., Chicago, Ill.
Pittsburgh Testing Laboratory, Pittsburgh, Pa.

COAL BY-PRODUCTS.

Burgess & Long, Columbus, Ohio.
Institute of Industrial Research, Washington, D. C.
James & Breckler, Louisville, Ky.
Little, Inc., Arthur D., Boston, Mass.
Ney, Inc., A. H., New York, N. Y.
Picard Laboratories, The, Birmingham, Ala.
Wiley & Co., Baltimore, Md.

COTTONSEED.

Burgess & Long, Columbus, Ohio.
Fort Worth Laboratories, Ft. Worth, Tex.
Picard Laboratories, The, Birmingham, Ala.
Thiele, Ludwig A., Columbus, Ohio.
Wiley & Co., Baltimore, Md.

FERTILIZERS.

Burgess & Long, Columbus, Ohio.
Freuchling & Robertson, Richmond, Va.
James & Breckler, Louisville, Ky.
Picard Laboratories, The, Birmingham, Ala.
Thiele, Ludwig A., Columbus, Ohio.
Wiley & Co., Baltimore, Md.

FUEL.

Burgess & Long, Columbus, Ohio.
Davis, Geo. C., Philadelphia, Pa.
Fort Worth Laboratories, Ft. Worth, Tex.
Hunt & Co., Robert W., Chicago, Ill.
Institute of Industrial Research, Washington, D. C.
James & Breckler, Louisville, Ky.
Little, Inc., Arthur D., Boston, Mass.
Picard Laboratories, The, Birmingham, Ala.
Pittsburgh Testing Laboratory, Pittsburgh, Pa.
Sadtler & Son, Samuel P., Philadelphia, Pa.
Wiley & Co., Baltimore, Md.

GRAPHITE.

Gilbert, N. A., Ashland, Ala.

MINERALS.

Burgess & Long, Columbus, Ohio.
Davis, Geo. C., Philadelphia, Pa.
Emory & Eisenbrey, Philadelphia, Pa.
Gilbert, N. A., Ashland, Ala.
Institute of Industrial Research, Washington, D. C.
James & Breckler, Louisville, Ky.
Little, Inc., Arthur D., Boston, Mass.
Picard Laboratories, The, Birmingham, Ala.
Pittsburgh Testing Laboratory, Pittsburgh, Pa.
Sadtler & Son, Samuel P., Philadelphia, Pa.
Thiele, Ludwig A., Columbus, Ohio.
Wiley & Co., Baltimore, Md.

OIL.

Burgess & Long, Columbus, Ohio.
Fort Worth Laboratories, Ft. Worth, Tex.
Wiley & Co., Baltimore, Md.

STEEL.

Hunt & Co., Robert W., Chicago, Ill.
Institute of Industrial Research, Washington, D. C.
Pittsburgh Testing Laboratory, Pittsburgh, Pa.

WATER.

Burgess & Long, Columbus, Ohio.
Fort Worth Laboratories, Ft. Worth, Tex.
Freuchling & Robertson, Richmond, Va.
Institute of Industrial Research, Washington, D. C.
Picard Laboratories, The, Birmingham, Ala.
Sadtler & Son, Samuel P., Philadelphia, Pa.
Wiley & Co., Baltimore, Md.

Chimneys. (Concrete.)

Rust Engineering Co., The, Pittsburgh, Pa.

RADIAL BRICK

Rust Engineering Co., The, Pittsburgh, Pa.

Chloride Accumulator.

Electric Storage Battery Co., The, Philadelphia, Pa.

Chlorine Control Apparatus.

Wallace & Tiernan Co., Inc., New York, N. Y.

Cigarette Making Machinery.

American Machine & Fdry. Co., Brooklyn, N. Y.

Circuit Breakers. (Automatic Reclosing.)

Auto Reclosing Circuit Breaker Co., Columbus, O.

Cleaning Compound. (Floors, Etc.)

India Alkali Works, Boston, Mass.

Clocks. (Watchman's Portable.)

Fee Clock Co., Boston, Mass.

Harding Bros., Inc., Chicago, Ill.

Newman Clock Co., New York, N. Y.

Clutches. (Friction.)

Caldwell Co., W. E., Louisville, Ky.

Conway & Company, Cincinnati, Ohio.

Dodge Sales & Engr. Co., Milwaukee, Ind.

Medart Patent Pulley Co., St. Louis, Mo.

Coal.

The Alabama Co., Birmingham, Ala.

Consolidation Coal Co., Inc., New York, N. Y.

Tennessee Coal, Iron & R. R. Co., B'm'gh'm Ala.

Coal Cutters.

Jeffrey Mfg. Co., Columbus, O.

Coal Handling Machinery.

Bartlett & Snow Co., C. O., Cleveland, O.

Guarantee Construction Co., New York, N. Y.

Hais Mfg. Co., Geo., New York, N. Y.

Hayward Co., New York, N. Y.

Hunt Co., C. W., Inc., West New Brighton, N. Y.

Jeffrey Mfg. Co., Columbus, O.

Link Belt Co., Philadelphia, Pa.

Robins Conveying Belt Co., New York, N. Y.

Weller Mfg. Co., Chicago, Ill.

Coal Tar and By-Products.

Barrett Co., New York, N. Y.

Coal Tipples.

American Bridge Co., New York, N. Y.

Coll Making. (Armature and Field.)

Charlotte Elec. Repair Co., Charlotte, N. C.

Coke.

The Alabama Co., Birmingham, Ala.

Hammond-Byrd Iron Co., Birmingham, Ala.

Tennessee Coal, Iron & R. R. Co., B'm'gh'm Ala.

Cold Store Doors.

Brecht Co., The, St. Louis, Mo.

Columns. (Cast Iron.)

U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.

Columns. (Center Bored.)

Cordale Sash, Door & Lumber Co., Cordale, Ga.

Concrete Construction. (Reinforced.)

Asbestos Protected Metal Co., Pittsburgh, Pa.
Corrugated Bar Co., Buffalo, N. Y.
Guarantee Construction Co., New York, N. Y.
Jeffrey Mfg. Co., Columbus, O.
Rust Engineering Co., The, Pittsburgh, Pa.

Concrete Curb Protector. (Steel.)

Trussed Concrete Steel Co., Youngstown, Ohio

Concrete Forms.

Northwestern Steel & Iron Wks., Eau Claire, Wis.

Concrete Reinforcing Bars.

Bourne-Fuller Co., The, Cleveland, Ohio.

Carnegie Steel Co., Pittsburgh, Pa.

Concrete Steel Co., New York, N. Y.

Corrugated Bar Co., Buffalo, N. Y.

Dietrich Brothers, Baltimore, Md.

Gulf States Steel Co., Birmingham, Ala.

Hoffman & Co., R. C., Baltimore, Md.

Jones & Laughlin Steel Co., Pittsburgh, Pa.

Lackawanna Steel Co., Lackawanna, N. Y.

Laclede Steel Co., St. Louis, Mo.

Republic Iron & Steel Co., Youngstown, Ohio.

Sweet's Steel Co., Williamsport, Pa.

Trussed Concrete Steel Co., Youngstown, Ohio.

Concrete Reinforcing Wire and Wire Fabric.

American Steel & Wire Co., Chicago, Ill.

Consolidated Expanded Metal Co., Braddock, Pa.

Condensers.

Cresson-Morris Co., Philadelphia, Pa.

Dean Bros. Steam Pump Wks., Indianapolis, Ind.

Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

Worthington Pump & Machinery Corp., New York, N. Y.

York Mfg. Co., York, Pa.

Conductor Pipe.

Edwards Mfg. Co., Cincinnati, O.

Conduits. (Electrical, Interior, Steel.)

National Metal Molding Co., Pittsburgh, Pa.

Youngtown Sheet & Tube Co., Youngstown, O.

Conduit Fittings.

National Metal Molding Co., Pittsburgh, Pa.

Contractors.

Austin Co., The, Cleveland, O.

Stewart & Co., R. K., South Boston, Va.

Stone & Webster Engineering Corp., Boston, Mass.

Westinghouse, Church Kerr & Co., New York, N. Y.

White Corp., J. G., New York, N. Y.

CEMENT GUN WORK.

Cement Gun Co., Inc., Allentown, Pa.

DRAINAGE.

Atlantic, Gulf & Pacific Co., New York, N. Y.

Brett Eng. & Contr. Co., Norfolk, Va.

Cox & Co., Henry J., Alexandria, La.

Cox & Co., Henry J., Alexandria, La.

DREDGING.

Atlantic, Gulf & Pacific Co., New York, N. Y.

Cox & Co., Henry J., Alexandria, La.

Cox & Co., Henry J., Alexandria, La.

GENERAL.

Brett Eng. & Contr. Co., Norfolk, Va.

Lane & Co., Inc., C. W., Atlanta, Ga.

Stone & Webster Engr. Corp., Boston, Mass.

White Corp., J. G., New York, N. Y.

Willard, Boggs & Co., Spartanburg, S. C.

POWER PLANTS.

Allen Scales Engineering Co., Inc., Nashville, Tenn.

Uniflow Boiler Co., Inc., Philadelphia, Pa.

RAILROADS.

Blodgett Construction Co., Shreveport, La.

Brett Eng. & Contr. Co., Norfolk, Va.

Cox & Co., Henry J., Alexandria, La.

Cox & Co., Henry J., Alexandria, La.

Willard, Boggs & Co., Spartanburg, S. C.

ROAD AND STREET PAVING.

Lane & Co., Inc., C. W., Atlanta, Ga.

McCrary Co., J. B., Atlanta, Ga.

McCrory Co., J. B., Atlanta, Ga.

Southern Purchasing Co., Chattanooga, Tenn.

West Const. Co., The, Chattanooga, Tenn.

SEWER AND WATER WORKS.

Lane & Co., Inc., C. W., Atlanta, Ga.

McCrary Co., J. B., Atlanta, Ga.

McCrory Co., J. B., Atlanta, Ga.

Willard, Boggs & Co., Spartanburg, S. C.

STEAM SHOVEL WORK.

Blodgett Construction Co., Shreveport, La.

Contractor's Machinery and Supplies.

American Clay Mch. Co., The, Bucyrus, O.

Arzinger Mch. Co., W. O., Nashville, Tenn.

Austin Mfg. Co., Chicago, Ill.

Burgheim Co., Hugo, Cincinnati, O.

Byers Mach. Co., The John F. Ravenna, O.

Contractors Mch. & Supply Co., Pittsburgh, Pa.

Curtiss-Wright Co., New York, N. Y.

Empire Engineering Co., Inc., New York, N. Y.

Equity Equipment Co., Inc., The, Cincinnati, O.

Flory Mfg. Co., S., Bangor, Pa.

Gardner Inc., James T., Chicago, Ill.

Glover Machine Wks., Marietta, Ga.

Holmes Engine Sales Co., New York, N. Y.

Hunting Machinery Co., New York, N. Y.

Ingersoll-Rand Co., New York, N. Y.

International Equipment Co., Chicago, Ill.

Jaeger Machine Co., The, Columbus, O.

Jewel Supply & Equipment Co., Inc., Baltimore, Md.

Jones Machinery Co., J. B., Atlanta, Ga.

Joseph Iron Co., The, Issaquah, Cincinnati, O.

Kleinhaus Co., H., Pittsburgh, Pa.

Malhotra Machinery Corp., Baltimore, Md.

Marine Metal & Supply Co., New York, N. Y.

Mayer, F., Chicago, Ill.

Milburn Co., Alex., Baltimore, Md.

Modern Mchry. Engrng. New York, N. Y.

Monaghan Mch. Co., Chicago, Ill.

Motters' Sons Geo. F., York, Pa.

Northwestern Steel & Iron Wks., Eau Claire, Wis.

Oliver Mfg. Co., Wm. J., Knoxville, Tenn.

Packham & Co., Fred, A., Cleveland, Ohio.

Standard Scale and Supply Co., Pittsburgh, Pa.

Stark Co., S. L., Pittsburgh, Pa.

Tank Equipment Co., Inc., New York, N. Y.

Texas Power & Light Co., Dallas, Tex.

Terwilliger Equipment Co., Philadelphia, Pa.

Tilley Co., Inc., J. G., Bristol, Va.

United States Equipment Co., Chicago, Ill.

Wate Ice Cement Mchry. Corp., Waterloo, Iowa.

Weller & Co., Birmingham, Ala.

Wayne Supply Co., Roy, C., Louisville, Ky.

Wickes Machinery Co., Jersey City, N. J.

Contract Work by Southern Firms.

[See following classifications.]

BOILER AND TANK WORK.

CARTINGS.

FOUNDRIES AND MACHINE SHOPS.

GEAR CUTTING.

MACHINERY. (Special.)

ORNAMENTAL IRON WORKS.

PATTERN MAKING.

SHEET METAL WORK.

STRUCTURAL STEEL AND IRON.

WELDING PLANTS.

Alavista Foundry Co., Alavista, Va.

American Forging Co., Birmingham, Ala.

Chattanooga Rfr. & Fdry. Co., Chattanooga, Tenn.

Columbus Iron Works Co., Columbus, Ga.

Durham Fdry. & Mch. Wks., Durham, N. C.

Emerson Pump & Valve Co., Alexandria, Va.

Gluscock Steel & Mfg. Co., Greensboro, N. C.

Hartley-Tynes Mfg. Co., Birmingham, Ala.

Janner & Co., Montgomery, Ala.

Milburn Co., Alex., Baltimore, Md.

Roanoke Iron & Bridge Works, Inc., Roanoke, Va.

Salem Foundry & Machine Works, Salem, Va.

Salem Iron Wks., Winston-Salem, N. C.

Schofield's Sons Co., J. S., Macon, Ga.

Southern Foundry Co., Owensboro, Ky.

Stratton & Bragg Co., Petersburg, Va.

St. Louis Brass Mfg. Co., St. Louis, Mo.

Strickland Machine Co., Richmond, Va.

Wilmington Iron Works, Inc., Wilmington, N. C.

Contracting Road and Street Paving.

Brecht Engineering & Con. Co., Norfolk, Va.

Conveying and Elevating Machinery.

Alvey-Ferguson Co., Inc., Cincinnati, Ohio.

Bartlett & Snow Co., C. O., Cleveland, O.

Caldwell & Son Co., H. W., Chicago, Ill.

Guarantee Const. Co., New York, N. Y.

Hunt Co., C. W., Inc., West New Brighton, N. Y.

Jeffrey Mfg. Co., Columbus, O.

Link-Belt Co., New York, N. Y.

Link-Belt Co., Philadelphia, Pa.

Main Beltting Co., Philadelphia, Pa.

Mathews Gravity Carrier Co., Ellwood City, Pa.

McLanahan-Stone Mach. Co., Hollidaysburg, Pa.

Robins Conveying Belt Co., New York, N. Y.

Starveant Mill Co., Boston, Mass.

Weller Mfg. Co., Chicago, Ill.

Cooling Ponds.

Spray Engineering Co., Boston, Mass.

Copper & Brass. (Sheet, Tubes, Rods, Wire, etc.)

Hungerford Brass & Copper Co., U. T., Balto., Md.

Coppersmiths.

Ahlens & Gregoire, Louisville, Ky.

Cordage.

Broderick & Bascom Rope Co., St. Louis, Mo.

Columbian Rope Co., Auburn, N. Y.

Waterbury Co., New York, N. Y.

Corner Beads.

Milwaukee Corrugating Co., Milwaukee, Wis.

Corn-Mill Machinery.

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Ejectors. (Sewage.)
Lunkenheimer Co., The, Cincinnati, O.

Electric Machinery. (Dynamo Generators Motors, etc.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American Pressing Iron Co., New York, N. Y.
Blount & Co., J. L., Birmingham, Ala.
Crocker-Wheeler Co., Amper, N. J.
Doubleday-Hill Elec. Co., Washington, D. C.
General Electric Co., Schenectady, N. Y.
Klein & Co., Nathan, New York, N. Y.
Lincoln Electric Co., Cleveland, Ohio.
O'Brien Mfg. Co., Philadelphia, Pa.
Pan Electric Mfg. Co., St. Louis, Mo.
Piedmont Electric Co., Asheville, N. C.
Sachsenmaier & Co., Geo., Philadelphia, Pa.
Schroeder Electric Co., Evansville, Ind.
Stewart, S. J., [Electric], New Orleans, La.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Texas Power & Light Co., Dallas, Tex.
Western Electric Co., New York, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.
Wilson Mchry. Co., St. Louis, Mo.

Electric Switches. (High Voltage.)
Railway & Industrial Engr. Co., Pittsburgh, Pa.

Electrical Contractors' Instruments and Supplies.

Auto. Reclusing Circuit Breaker Co., Columbus, O.
Catho Felt Co., Inc., Brooklyn, N. Y.
Crocker-Wheeler Co., Amper, N. J.
Doubleday-Hill Elec. Co., Washington, D. C.
General Electric Co., Schenectady, N. Y.
Piedmont Electric Co., Asheville, N. C.
Weston Electrical Instrument Co., Newark, N. J.

Electrical Conduits.
National Metal Molding Co., Pittsburgh, Pa.

Electrical Machinery Repairing. (Motors Generators, etc.)
Charlotte Elec. Repair Co., Charlotte, N. C.

Electric Light Plants. (Portable.)
Edison Storage Battery Co., Orange, N. J.
Schroeder Electric Co., Evansville, Ind.

Elevators.

AUTOMATIC.
Mathews Gravity Carrier Co., Ellwood City, Pa.

ELECTRIC.
American Elev. & Mch. Co., Inc., Louisville, Ky.
Federal Elevator Co., St. Louis, Mo.
K. G. Elevator Mfg. Co., Kansas City, Mo.
Kimball Bros. Co., Council Bluffs, Iowa
Moffatt Mchry. Mfg. Co., Charlotte, N. C.
Otis Elevator Co., New York, N. Y.
Spindel, J. G., Reading, Pa.
Warsaw Elevator Co., Baltimore, Md.

HAND AND BELT POWER.
American Elev. & Mch. Co., Inc., Louisville, Ky.
Federal Elevator Co., St. Louis, Mo.
K. G. Elevator Mfg. Co., Kansas City, Mo.
Kimball Bros. Co., Council Bluffs, Iowa
Moffatt Mchry. Mfg. Co., Charlotte, N. C.
Otis Elevator Co., New York, N. Y.
Spindel, J. G., Reading, Pa.

HYDRAULIC.
American Elev. & Mch. Co., Inc., Louisville, Ky.
Federal Elevator Co., St. Louis, Mo.
K. G. Elevator Mfg. Co., Kansas City, Mo.
Moffatt Mchry. Mfg. Co., Charlotte, N. C.
Otis Elevator Co., New York, N. Y.

PORTABLE FOR WAREHOUSES, ETC.
Economy Engineering Co., Chicago, Ill.

STEAM HYDRAULIC.
Otis Elevator Co., New York, N. Y.
Ridgway & Son Co., The, Coatesville, Pa.

Elevator Buckets.
Alley-Ferguson Co., Inc., Cincinnati, Ohio.
Caldwell & Son Co., H. W., Chicago, Ill.
Hendrick Mfg. Co., Carbondale, Pa.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Co., Philadelphia, Pa.

Elevator Enclosures and Cabs.
Bolles Iron & Wire Works, J. E., Detroit, Mich.
Dow Wire & Iron Works, Inc., Louisville, Ky.
Dufur & Co., Baltimore, Md.
Dufur, Baggett & Co., Baltimore, Md.
Meyers Mfg. Co., The, Fred J., Hamilton, O.
Otis Elevator Co., New York, N. Y.

Elevator Safety Gates.
Federal Elevator Co., St. Louis, Mo.

Enameling. (Porcelain.)
St. Louis Brass Mfg. Co., St. Louis, Mo.

Enamels.
Aero Co., Cleveland, Ohio

Engineers.

AGRICULTURAL.
Weston, Geo. F., New York, N. Y.

APPRAISAL.

Allison, Walter A., Philadelphia, Pa.
Day & Zimmermann, Inc., Philadelphia, Pa.
Gassman, Howard M., Birmingham, Ala.
Hunt Engr. Co., Kansas City, Mo.
Meade, Richard K., Baltimore, Md.
Sanderson & Porter, New York, N. Y.
Weller, Francis R., Washington, D. C.

BLAST FURNACES.
McKee & Co., Arthur G., Cleveland, Ohio
Smythe Co., The S. R., Pittsburgh, Pa.

BRIDGE.
Concrete-Steel Engr. Co., New York.

Freeland-Kyle Engr. Co., Nashville, Tenn.
Gardner & Howe, Memphis, Tenn.
Hedrick & Hedrick, Kansas City, Mo.
Luten, Daniel B., Indianapolis, Ind.
Twogood, L. Scott, Memphis, Tenn.
Waddell & Sons, Kansas City, Mo.

CEMENT MILL.
Hunt Engr. Co., Kansas City, Mo.
Meade, Richard K., Baltimore, Md.

CHEMICAL.

Burgess & Long, Columbus, Ohio.
Dorr Co., The, New York, N. Y.
Dow & Smith, New York, N. Y.
Emory & Eisenbrey, Philadelphia, Pa.
Gilbert, N. A., Ashland, Ala.
Institute of Indust. Resch., Inc., Washington, D. C.
Little, Inc., Arthur D., Boston, Mass.
Meade, Richard K., Baltimore, Md.
Pittsburgh Testing Laboratory, Pittsburgh, Pa.
Thiele, Ludwig A., Columbus, Ohio.

CIVIL.

Arnold Co., The, Chicago, Ill.
Brackett, F. Ernest, Cumberland, Md.
Clark & Krebs, Charleston, W. Va.
Concrete-Steel Engr. Co., New York.
Emory & Eisenbrey, Philadelphia, Pa.
Gardner & Howe, Memphis, Tenn.
Knowles, Morris, Pittsburgh, Pa.
Mole, H. E., New York, N. Y.
Moore & Co., W. E., Pittsburgh, Pa.
Sanderson & Porter, New York, N. Y.
Speed, Wm., Louisville, Ky.
Waddell & Sons, Kansas City, Mo.
White Companies, J. G., New York, N. Y.

DAMS.

Byllesby & Co., H. M., Chicago, Ill.
Cooper & Co., Hugh L., New York, N. Y.
Gardner & Howe, Memphis, Tenn.
Hunt Engineering Co., Kansas City, Mo.
Main, Chas. T., Boston, Mass.
Moore & Co., W. E., Pittsburgh, Pa.
Sanderson & Porter, New York, N. Y.
Spiker, Wm. C., Atlanta, Ga.
Weller, Francis R., Washington, D. C.
White Companies, J. G., New York, N. Y.

DRAINAGE AND IRRIGATION.

Brett Eng. & Contr. Co., Norfolk, Va.
Cox & Co., Henry J., Alexandria, La.
Ford, Bacon & Davis, New York, N. Y.
Knowles, Morris, Pittsburgh, Pa.
Sanderson & Porter, New York, N. Y.
Spray Engr. Co., Boston, Mass.
Weston, Geo. F., New York, N. Y.

EFFICIENCY.

Gassman, Howard M., Birmingham, Ala.
Institute of Indust. Resch., Inc., Washington, D. C.
Little, Inc., Arthur D., Boston, Mass.
Moore & Co., W. E., Pittsburgh, Pa.

ELECTRICAL.

Arnold Co., The, Chicago, Ill.
Cooper & Co., Hugh L., New York, N. Y.
Crocker-Wheeler Co., Amper, N. J.
Gassman, Howard M., Birmingham, Ala.
Graves Engr. Co., Inc., New York, N. Y.
Lide, Martin J., Birmingham, Ala.
Mole, H. E., New York, N. Y.
Moore & Co., W. E., Pittsburgh, Pa.
Sanderson & Porter, New York, N. Y.
Stone & Webster Engr. Corp., Boston, Mass.
Tucker & Laxton, Charlotte, N. C.
Westinghouse, Church, Kerr & Co., New York, N. Y.
White, Gilbert C., Charlotte, N. C.
Wiley & Wilson, Lynchburg, Va.

ELECTRIC LIGHT AND POWER PLANTS.

Byllesby & Co., H. M., Chicago, Ill.
Cooper & Co., Hugh L., New York, N. Y.
Ford, Bacon & Davis, New York, N. Y.
Gassman, Howard M., Birmingham, Ala.
Graves Engr. Co., Inc., New York, N. Y.
Humphrey, C. W., Chicago, Ill.
Moore & Co., W. E., Pittsburgh, Pa.
Sanderson & Porter, New York, N. Y.
Scotfield Engr. Co., Philadelphia, Pa.
Stone & Webster Engr. Corp., Boston, Mass.
Weller, Francis R., Washington, D. C.
Westinghouse, Church, Kerr & Co., New York, N. Y.
White Companies, J. G., New York, N. Y.
Wiley & Wilson, Lynchburg, Va.

GAS.

Allison, Walter A., Philadelphia, Pa.
Byllesby & Co., H. M., Chicago, Ill.
Ford, Bacon & Davis, New York, N. Y.
Sanderson & Porter, New York, N. Y.

GEOLOGICAL.

Clark & Krebs, Charleston, W. Va.
Davis, Geo. C., Philadelphia, Pa.
Freohling & Robertson, Richmond, Va.
Institute of Indust. Resch., Inc., Washington, D. C.
Mines Efficiency Co., Duluth, Minn.

HYDRO-ELECTRIC.

Byllesby & Co., H. M., Chicago, Ill.
Cooper & Co., Hugh L., New York, N. Y.
Graves Engr. Co., Inc., New York, N. Y.
Humphrey, C. W., Chicago, Ill.
Knowles, Morris, Pittsburgh, Pa.
Main, Chas. T., Boston, Mass.
Moore & Co., W. E., Pittsburgh, Pa.
Sanderson & Porter, New York, N. Y.
Scotfield Engr. Co., Philadelphia, Pa.
Spirine, J. E., Greenville, S. C.
Spiker, Wm. C., Atlanta, Ga.
Tucker & Laxton, Charlotte, N. C.
Weller, Francis R., Washington, D. C.
White Companies, J. G., New York, N. Y.
Wiley & Wilson, Lynchburg, Va.

INDUSTRIAL PLANT.

Austin Co., The, Cleveland, O.
Brackett, F. Ernest, Cumberland, Md.
Brooks Engr. Co., C. L., Moultrie, Ga.
Day & Zimmermann, Inc., Philadelphia, Pa.
Dorr Co., The, New York, N. Y.
Emory & Eisenbrey, Philadelphia, Pa.
Gardner & Howe, Memphis, Tenn.
Gassman, Howard M., Birmingham, Ala.
Graves Engr. Co., Inc., New York, N. Y.
Guarantee Const. Co., New York, N. Y.
Hunt Engr. Co., Kansas City, Mo.
Humphrey, C. W., Chicago, Ill.
Institute of Indust. Resch., Inc., Washington, D. C.
Little, Inc., Arthur D., Boston, Mass.
McKee & Co., Arthur G., Cleveland, Ohio
Main, Chas. T., Boston, Mass.
Meade, Richard K., Baltimore, Md.
Moore & Co., W. E., Pittsburgh, Pa.
O'Brien, W. C., Memphis, Tenn.
Rust Engineering Co., The, Pittsburgh, Pa.
Sanderson & Porter, New York, N. Y.
Scotfield Engr. Co., Philadelphia, Pa.
Shearer, C. E., Memphis, Tenn.
Stanton, Wm. A., Vicksburg, Miss.
Stone & Webster Engr. Corp., Boston, Mass.
Twogood, L. Scott, Memphis, Tenn.
Westinghouse, Church, Kerr & Co., New York, N. Y.
White Companies, J. G., New York, N. Y.
Wiley & Wilson, Lynchburg, Va.

INSPECTIONS AND TESTS.

Dow & Smith, New York, N. Y.
Emory & Eisenbrey, Philadelphia, Pa.
Fort Worth Laboratories, Ft. Worth, Tex.
Freohling & Robertson, Richmond, Va.
Hunt & Co., Robert, Philadelphia, Pa.
Institute of Indust. Resch., Inc., Washington, D. C.
Meade, Richard K., Baltimore, Md.
Moore & Co., W. E., Pittsburgh, Pa.
O'Brien, W. C., Memphis, Tenn.
Rust Engineering Co., The, Pittsburgh, Pa.
Sanderson & Porter, New York, N. Y.
Scotfield Engr. Co., Philadelphia, Pa.
Shearer, C. E., Memphis, Tenn.
Stanton, Wm. A., Vicksburg, Miss.
Stone & Webster Engr. Corp., Boston, Mass.
Twogood, L. Scott, Memphis, Tenn.
Westinghouse, Church, Kerr & Co., New York, N. Y.
White Companies, J. G., New York, N. Y.
Wiley & Wilson, Lynchburg, Va.

LANDSCAPE.

Burnap, Geo., Washington, D. C.

LEVER.

Brett Eng. & Contr. Co., Norfolk, Va.

LIGHTING.

Byllesby & Co., H. M., Chicago, Ill.

Ford, Bacon & Davis, New York, N. Y.

McCrary & Co., J. B., Atlanta, Ga.

Moore & Co., W. E., Pittsburgh, Pa.

Wiley & Wilson, Lynchburg, Va.

MECHANICAL.

Arnold Co., The, Chicago, Ill.
Emory & Eisenbrey, Philadelphia, Pa.
Gassman, Howard M., Birmingham, Ala.
Graves Engr. Co., Inc., New York, N. Y.
Hunt Engr. Co., Kansas City, Mo.
Lide, Martin J., Birmingham, Ala.
Meade, Richard K., Baltimore, Md.
Moore & Co., W. E., Pittsburgh, Pa.
Tucker & Laxton, Charlotte, N. C.
Uniflow Boiler Co., Inc., Philadelphia, Pa.
Wiley & Wilson, Lynchburg, Va.

METALLURGICAL.

Dorr Co., The, New York, N. Y.

Mines Efficiency Co., Duluth, Minn.

MINING.

Brackett, F. Ernest, Cumberland, Md.

Clark & Krebs, Charleston, W. Va.

Concrete-Steel Engr. Co., New York.

Emory & Eisenbrey, Philadelphia, Pa.

Gardner & Howe, Memphis, Tenn.

Knowles, Morris, Pittsburgh, Pa.

Mole, H. E., New York, N. Y.

Moore & Co., W. E., Pittsburgh, Pa.

Sanderson & Porter, New York, N. Y.

Speed, Wm., Louisville, Ky.

Waddell & Sons, Kansas City, Mo.

White Companies, J. G., New York, N. Y.

MUNICIPAL.

Clark & Krebs, Charleston, W. Va.

Dow & Smith, New York, N. Y.

Elrod, Henry Exall, Dallas, Texas.

Graves Engr. Co., Inc., New York, N. Y.

Knowles, Morris, Pittsburgh, Pa.

Markley, S. Chester, Roanoke, Va.
McCrary Co., J. B., Atlanta, Ga.
Moore & Co., W. E., Pittsburgh, Pa.
Twogood, L. Scott, Memphis, Tenn.
White Gilbert C., Durham, N. C.

PACKING HOUSE.

Brooks, C. L., Engineering Co., Moultrie, Ga.

PAVING AND ROAD.

Brett Eng. & Contr. Co., Norfolk, Va.
Dow & Smith, New York, N. Y.
Elrod, Henry Exall, Dallas, Texas.
Freeland-Kyle Engr. Co., Nashville, Tenn.
Institute of Indust. Resch., Inc., Washington, D. C.
Knowles, Morris, Pittsburgh, Pa.
White Gilbert C., Durham, N. C.

PUBLIC SERVICE PROPERTIES.

Byllesby & Co., H. M., Chicago, Ill.
Cooper & Co., Hugh L., New York, N. Y.
Day & Zimmermann, Inc., Philadelphia, Pa.
Ford, Bacon & Davis, New York, N. Y.
Graves Engineering Co., Inc., New York, N. Y.
Moore & Co., W. E., Pittsburgh, Pa.
Sanderson & Porter, New York, N. Y.
Scotfield Engineering Co., Philadelphia, Pa.
Stone & Webster Engr. Corp., Boston, Mass.
Weller, Francis R., Washington, D. C.
Westinghouse, Church, Kerr & Co., New York, N. Y.
White Companies, J. G., New York, N. Y.
Wortham, Edwin, Richmond, Va.

RAILROAD.

Brackett, F. Ernest, Cumberland, Md.
Clark & Krebs, Charleston, W. Va.
Hunt & Co., Robert W., Chicago, Ill.
Humphrey, C. W., Chicago, Ill.
Speed, Wm., Louisville, Ky.
Wortham, Edwin, Richmond, Va.

REFRIGERATING.

Brooks Engineering Co., C. L., Moultrie, Ga.

REINFORCED CONCRETE.

(Bridges, Buildings, etc.)
Concrete-Steel Engr. Co., New York.
Freeland-Kyle Engr. Co., Nashville, Tenn.
Gardner & Howe, Memphis, Tenn.
Guarantee Construction Co., New York, N. Y.
Luten, Daniel B., Indianapolis, Ind.
Rust Engineering Co., The, Pittsburgh, Pa.
Savannah Engr. & Construction Co., Savannah, Ga.
Spiker, William C., Atlanta, Ga.
Stanton, Wm. A., Vicksburg, Miss.
Tucker & Laxton, Charlotte, N. C.
White Companies, J. G., New York, N. Y.

SEWERAGE AND WATER-WORKS.

Brackett, F. Ernest, Cumberland, Md.
Ford, Bacon & Davis, New York, N. Y.
Knowles, Morris, Pittsburgh, Pa.
Markley, S. Chester, Roanoke, Va.
Moore & Co., W. E., Pittsburgh, Pa.
Sanderson & Porter, New York, N. Y.
Speed, Wm., Louisville, Ky.
Twogood, L. Scott, Memphis, Tenn.
White Companies, J. G., New York, N. Y.
Wiley & Wilson, Lynchburg, Va.

STEEL WORK AND ROLLING MILLS.

Smythe Co., The S. R., Pittsburgh, Pa.

STRUCTURAL STEEL.

Freeland-Kyle Engr. Co., Nashville, Tenn.
Hedrick & Hedrick, Kansas City, Mo.
Shearer, C. E., Memphis, Tenn.
Spiker, Wm. C., Atlanta, Ga.
Stanton, Wm. A., Vicksburg, Miss.

Engines. COMPRESSED AIR.

Dake Engine Co., Grand Haven, Mich.

GAS AND GASOLINE.

Cooper Co., C. & G., Mt. Vernon, Ohio.
De La Vergne Machine Co., New York, N. Y.
Foss Gas Engine Co., Springfield, O.
Ideal Engine Co., Lansing, Mich.
Mits Corp., August, New York, N. Y.
National Transit Pump & Machine Co., Oil City, Pa.
Remington Oil Eng. Co., New York, N. Y.
Witte Engine Works, Kansas City, Mo.

OIL.

Chicago-Pneumatic Tool Co., Chicago, Ill.
De La Vergne Machine Co., New York, N. Y.
Diamond Iron Works, Minneapolis, Minn.
Foss Gas Engine Co., Springfield, O.
Johnston & Jennings Co., Cleveland, O.
Mits Corp., August, New York, N. Y.
Moore & Sons Corp., Samuel L., Elizabeth, N. J.
Muncie Oil Engine Co., Muncie, Ind.
National Transit Pump & Machine Co., Oil City, Pa.
Remington Oil Eng. Co., New York, N. Y.
Worthington Pump & Mchry. Corp., New York, N. Y.

STEAM.

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Ball Engine Co., Erie, Pa.
Buffalo Forge Co., Buffalo, N. Y.
Cameron & Barclay Co., Charleston, S. C.
Clark Bros. Co., Olean, N. Y.
Cooper Co., C. & G., Mt. Vernon, O.
Harris Bros. Co., Chicago, Ill.
Hardie-Tynes Mfg. Co., Birmingham, Ala.
Houston, Stanwood & Gamble Co., Cincinnati, O.
Lefell & Co., James, Springfield, O.
Lombard Iron Works, Augusta, Ga.
Mecklenburg Iron Works, Charlotte, N. C.
Merris Machine Works, Baldwinville, N. Y.
Murray Iron Works Co., Burlington, Ia.
Nagle Corliss Engine Wks., Erie, Pa.
National Transit Pump & Mach. Co., Oil City, Pa.
Schotfield Iron Wks., Macon, Ga.
Vilter Mfg. Co., Milwaukee, Wis.

Envelopes.

Young & Selden Co., Baltimore, Md.

Excavating Machinery.

American Clay Mchry. Co., The, Bucyrus, O.
Ball Engine Co., Erie, Pa.
Bay City Dredge Wks., Bay City, Mich.
Byers Mach. Co., The, John F., Ravenna, O.
Fairbanks Steam Shovel Co., Marion, O.
Harvard Co., New York, N. Y.
Jeffrey Mfg. Co., Columbus, O.
Keystone Driller Co., Beaver Falls, Pa.
Lidgerwood Mfg. Co., New York, N. Y.
Monaghan Mach. Co., Chicago, Ill.
Morris Mach. Wks., Baldwinville, N. Y.
Osgood Co., The, Marion, O.
Owen Bucket Co., The, Cleveland, O.
Sauerman Bros., Chicago, Ill.

Excavators.

CABLEWAY DRAGLINE.

Ball Engine Co., Erie, Pa.

Sauerman Bros., Chicago, Ill.

TRENCH.

Ball Engine Co., Erie, Pa.
Bay City Dredge Works, Bay City, Mich.
Fairbanks Steam Shovel Co., Marion, O.
Harvard Co., The, New York, N. Y.
Keystone Driller Co., Beaver Falls, Pa.
Monaghan Machine Co., Chicago, Ill.

Excelsior Machinery.

Kline, Lewis T., Alpena, Mich.

Exhaust Heads.

Abendroth & Root Mfg. Co., Newburgh, N. Y.
American Spiral Pipe Works, Chicago, Ill.

Expanded Metal Lath and Reinforcing.
Consolidated Expanded Metal Co., Braddock, Pa.

Expansion Inti. (Street and Road.)
Pioneer Asphalt Co., Lawrenceville, Ill.

Explosives.

Actna Explosives Co., Inc., New York, N. Y.
Atlas Powder Co., Wilmington, Del.
Du Pont de Nemours & Co., E. I., Wilmington, Del.
Hercules Powder Co., Wilmington, Del.

Exporters.

Burgess & Co., D. H., Petersburg, Va.
Gaston, Williams & Wigmore, New York City.

Factory Sites. (Town and Railroad.) [See Industrial, Agricultural and Commercial Opportunities.]

Martien & Co., Wm., Baltimore, Md.

Feed-Water Heaters and Purifiers.

American Water Softener Co., Philadelphia, Pa.
Murray Iron Works Co., Burlington, Ia.
Worthington Pump & Mchry. Corp., New York, N. Y.

Felt. (Building Sheathing.)

Barrett Co., New York, N. Y.

Felt Parts. (Mechanical Purposes.)

Booth Felt Co., Inc., Brooklyn, N. Y.

Fencing.

CORRUGATED, GALVANIZED, CONCRETE.
Amer. Sheet & Tin Plate Co., Pittsburgh, Pa.

WOVEN WIRE FIELD.

American Steel & Wire Co., Chicago, Ill.
Cyclone Fence Co., Waukegan, Ill.
Gulf States Steel Co., Birmingham, Ala.
Stewart Iron Works Co., Cincinnati, O.

Fencing, Entrance Gates. (Iron, Steel, Wire.)

American Steel & Wire Co., Chicago, Ill.
Bolles Iron & Wire Wks., J. E., Detroit, Mich.
Cyclone Fence Co., Waukegan, Ill.
Dow Wire & Iron Works, Inc., Louisville, Ky.
Dufur & Co., Baltimore, Md.
New Jersey Wire Cloth Co., Trenton, N. J.
Stewart Iron Works Co., Cincinnati, O.
Van Dorn Iron Works Co., The, Cleveland, O.

Fertilizer Machy.

Bradley Pulverizer Co., Ashtabula, Pa.
K-B Pulverizer Co., Inc., New York, N. Y.
Sturtevant Mill Co., Boston, Mass.
Valk & Murdoch Co., Charleston, S. C.

Forms, Steel. (For Concrete, Culverts, Roads, Streets, Sidewalks, Tiles, etc.)
Northwestern Steel and Iron Wks., Eau Claire, Wis.

Foundry Equipment and Supplies.
Clifton-Pratt Co., The, Cincinnati, O.
Hill-Branner Foundry Supply Co., Cincinnati, O.

Foundry Facings. (Talc and Soapstone.)
DeSoto Talc Co., The, Chatsworth, Ga.
Hill-Branner Foundry Supply Co., Cincinnati, O.

Foundry and Machine Shops.
Altavista Foundry Co., Altavista, Va.
Emerson Pump & Valve Co., Alexandria, Va.
Glamorgan Pipe & Foundry Co., Lynchburg, Va.
Golden's Foundry & Machine Wks., Columbus, Ga.
Hardie-Tyner Mfg. Co., Birmingham, Ala.
Janney & Co., Montgomery, Ala.
Lombard Iron Works, Augusta, Ga.
Reilly Mfg. Co., J. J., Louisville, Ky.
Salem Foundry & Machine Works, Salem, Va.
Schofield's Sons Co., J. S., Macon, Ga.
Stratton & Bragg Co., Petersburg, Va.
Strickland Machine Co., Richmond, Va.
Titus, E. E., Petersburg, Va.
Yale & Murdoch Co., Charleston, S. C.
Wilmington Iron Works, Inc., Wilmington, N. C.

Fountain. (Drinking-Factory, Office, etc.)
Lbinger Sanitary Mfg. Co., D. A., Columbus, Ohio.

Fuel Economizer.
Green Fuel Economizer Co., New York, N. Y.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Fuel Oil.
Couden & Co., Tulsa, Okla.
Gulf Refining Co., Pittsburgh, Pa.
Magie Petroleum Co., Tulsa, Okla.
Sapula Refining Co., Sapulpa, Okla.
Standard Oil Co. of La., Baton Rouge, La.
Texas Co., The, New York, N. Y.
U. S. Asphalt Refining Co., New York, N. Y.

Furnaces. (For Industrial Purposes.)
Smythe Co., The, S. K., Pittsburgh, Pa.

Furniture. (Metal.)
The Van Dorn Iron Works Co., Cleveland, O.

Fuses. (Electrical.)
Johns-Mannville Co., H. W., New York, N. Y.

Galvanized Steel and Iron.
American Sheet & Tin Plate Co., Pittsburgh, Pa.
La Belle Iron Works, Stouffville, O.
McCalla Co., Harold, Philadelphia, Pa.
Whitaker, Gleason Co., Wheeling, W. Va.
Wood Iron & Steel Co., Alan, Philadelphia, Pa.
Youngstown Sheet & Tube Co., Youngstown, O.

Galvanizing.
Haglen-Gregory Galvanizing Co., Pittsburgh, Pa.

Garage and House. (Portable.)
Steel Products Co., The, Savannah, Ga.

Garbage Reduction Machinery.
Bartlett & Snow Co., C. O., Cleveland, O.

Gas Machines.
Kemp Mfg. Co., C. M., Baltimore, Md.
Milburn Co., Alex., Baltimore, Md.

Gas Plants.
Morgan Construction Co., Worcester, Mass.

Gas Producers.
Morgan Construction Co., Worcester, Mass.
Smythe Co., The, S. K., Pittsburgh, Pa.
Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.
Wood & Co., R. D., Philadelphia, Pa.

Gasoline and Kerosene.
Gulf Refining Co., Pittsburgh, Pa.
Sapula Refining Co., Sapulpa, Okla.
Standard Oil Co. of Louisiana, Baton Rouge, La.
Texas Co., The, New York, N. Y.

Gears.
Caldwell & Son Co., H. W., Chicago, Ill.
Cresson-Morris Co., Philadelphia, Pa.
Jeffrey Mfg. Co., Columbus, O.

Generating Sets.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Geologists.
Davis, George C., Philadelphia, Pa.
Frothing & Robertson, Richmond, Va.
Mines Efficiency Co., Duluth, Minn.

Glass. (Plate, Etc.)
Biswanger & Co., Memphis, Tenn.
Hires Turner Glass Co., Washington, D. C.

Glazing Construction.
Asbestos Protected Metal Co., Pittsburgh, Pa.

Governors. (Steam Engine.)
Pickering Governor Co., Portland, Conn.

Grain Elevator Supplies.
Caldwell & Son Co., H. W., Chicago, Ill.
Jeffrey Mfg. Co., Columbus, O.

Gravite Paving Blocks.
Granite Paving Block Mfrs. Assn., Boston, Mass.

Graphite.
Furness & Co., Chas. Earl, Ashland, Ala.
Dixon Crucible Co., Joseph, Jersey City, N. J.

Grates and Grate Bars.
Stark and Machine Co., Richmond, Va.
Thomas Grate Bar Co., Birmingham, Ala.
Vogt Mch. Co., Henry, Louisville, Ky.

Gravel. (Roofing and Road.)
American Ballast Co., Knoxville, Tenn.
Arundel Sand & Gravel Co., Baltimore, Md.
Cook & Laurie Gravel Co., Montgomery, Ala.
Grapeland River Navigation Co., Victoria, Texas.
Huron Fuel & Supply Co., Macon, Ga.
Martin & Davis, Bowling Green, Va.

Gravity Spiral Chutes.
Arey-Ferguson Co., Cincinnati, Ohio.
Dow Wire & Iron Wks., Inc., Louisville, Ky.
Mathews Gravity Carrier Co., Ellwood City, Pa.

Grease.
Albany Lubricating Co., New York, N. Y.
Standard Oil Co. of La., Baton Rouge, La.
Swan & Finch Co., New York, N. Y.

Grease Cups.
Albany Lubricating Co., New York, N. Y.
Lunkenheimer Co., The, Cincinnati, O.

Grease and Lubricating Compounds.
Albany Lubricating Co., New York, N. Y.
Borne, Strymer Co., New York, N. Y.
Barnes & Son Co., Wm. C., Baltimore, Md.
Standard Oil Co. of Louisiana, Baton Rouge, La.
Swan & Finch Co., New York, N. Y.
Texas Co., The, New York, N. Y.

Grinders. (Gypsum, Limestone, etc.)
Reddy Pulverizer Co., Allentown, Pa.
Lynch Car, Wheel and Axle Wks., Catsasqua, Pa.
Sturtevant Mill Co., Boston, Mass.
Williams Patent Crusher & Pulv. Co., Chicago, Ill.

Grinding Wheels.
Carborundum Co., Niagara Falls, N. Y.
Vitrified Wheel Co., Westfield, Mass.

Grommets and Washers.
Stimpson Co., Edwin B., Brooklyn, N. Y.

Groovers.
Huther Bros. Saw Mfg. Co., Inc., Rochester, N. Y.

Gunpowder.
Aetna Explosive Co., Inc., New York, N. Y.
Atlas Powder Co., Wilmington, Del.
Du Pont de Nemours & Co., E. I., Wilmington, Del.
Hercules Powder Co., Wilmington, Del.

Hammers. (Bell or Motor Driven.)
Beaudry & Co., Inc., Boston, Mass.

Hammers. (Steam, Power, Pneumatic.)
Ingersoll-Rand Co., New York, N. Y.

Harbor Improvements.
Atlantic Gulf & Pacific Co., New York, N. Y.

Hard Iron Stars.
Fanner Mfg. Co., The, Cleveland, Ohio.

Hardware Builders.
Standard Mfg. Co., Shelby, Ohio.

Hay Tools.
Myers & Bro., F. E., Ashland, Ohio.

Heaters. (Asphalt.)
Cummer & Son Co., F. D., The, Cleveland, Ohio.
East Iron & Machine Co., Lima, O.

Heating Apparatus, Engineers and Contractors.
Allen Scales Eng. Co., Inc., Nashville, Tenn.
Buffalo Steam Pump Co., Buffalo, N. Y.
Clarae Fan Co., Kalamazoo, Mich.
Hammond Heating Co., Cincinnati, Ohio.
Kuggles-Coles Engineering Co., York, Pa.
Sturtevant, B. F., Hyde Park, Boston, Mass.

Hinges.
Standard Mfg. Co., Shelby, Ohio.

Hoisting Machinery.
Byers Machine Co., The, John F., Ravenna, Ohio.
Dake Engine Co., Grand Haven, Mich.
Flory Mfg. Co., S., Bangor, Pa.
Lidgerwood Mfg. Co., New York, N. Y.
Monaghan Machine Co., Chicago, Ill.
New Bern Iron Wks. & S. Co., Inc., New Bern, N. C.
Stroudsburg Engine Wks., Stroudsburg, Pa.

Hoists.
CHAIN.
Dake Engine Co., Grand Haven, Mich.
Ford Chain Block & Mfg. Co., Philadelphia, Pa.
Spindel, J. G., Reading, Pa.
Topping Bros., New York, N. Y.
Wright Mfg. Co., Lisbon, O.
Yale & Towne Mfg. Co., New York, N. Y.

ELECTRIC.
S. Flory Mfg. Co., Bangor, Pa.
Lidgerwood Mfg. Co., New York, N. Y.
Monaghan Machine Co., Chicago, Ill.
Otis Elevator Co., New York, N. Y.
Patten Mfg. Co., Chattanooga, Tenn.
Yale & Towne Mfg. Co., New York, N. Y.

GASOLINE.
Patten Mfg. Co., Chattanooga, Tenn.
Waterloo Cement Mchry. Corp., Waterloo, Iowa.

STEAM.
American Cement Mch. Co., Inc., Keokuk, Iowa.
Byers Mach. Co., John F., Ravenna, Ohio.
Dake Engine Co., Grand Haven, Mich.
Flory Mfg. Co., S., Bangor, Pa.
Lidgerwood Mfg. Co., New York, N. Y.
Stroudsburg Engine Wks., Stroudsburg, Pa.

Hollow Building Tile.
Oconee Brick & Tile Co., Milledgeville, Ga.

Hoops, Bands, Etc. (Galvanized.)
McCalla Co., Harold, Philadelphia, Pa.

Hose.
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Goodyear Tire & Rubber Co., Akron, O.

Hotels.
Hotel Essex, Boston, Mass.
Murphy's Hotel, Richmond, Va.
Selwyn Hotel, Charlotte, N. C.

Houses.
MULTIPLE PRESSED STEEL.
Pruden Co., C. D., Baltimore, Md.
Trussed Concrete Steel Co., Youngstown, O.

Hulls. (Steel, for Boats and Barges.)
American Bridge Co., New York, N. Y.

Humidity Regulation.
Carrier Engr. Corp., New York, N. Y.

Humidifying Apparatus.
Carrier Engineering Corp., New York, N. Y.

Hydrants.
Bourbon Copper & Brass Wks. Co., Cincinnati, O.
Columbian Iron Wks., Chattanooga, Tenn.
Glamorgan Pipe & Foundry Co., Lynchburg, Va.
Myers & Bro., F. E., Ashland, O.
Wood & Co., R. D., Philadelphia, Pa.

Hydraulic Giants.
American Spiral Pipe Works, Chicago, Ill.

Hydrogen.
Linde Air Products Co., The, New York City

Ice and Refrigerating Boxes.
Brecht Co., The, St. Louis, Mo.

Icemaking Machinery and Supplies.
Brecht Co., The, St. Louis, Mo.
De La Vergne Mach. Co., New York, N. Y.
Frick Co., Waynesboro, Pa.
Vilter Mfg. Co., Milwaukee, Wis.
Vogt Bros. Mfg. Co., Louisville, Ky.
Vogt Machine Co., Inc., Henry, Louisville, Ky.
York Mfg. Co., York, Pa.

Importers.
Burgess & Co., D. H., Petersburg, Va.

Incorporators. (Companies.)
Delaware Registration Trust Co., Wilmington, Del.

Industrial, Agricultural and Commercial Opportunities.
CITIES, TOWNS, COMMERCIAL ORGANIZATIONS, ETC.
Brevard Club, Brevard, N. C.
Charleston, S. C., North Charleston Corporation.
Newport News, Va., Old Dominion Land Co.

RAILROADS.
Atlantic Coast Line, Wilmington, N. C.
Atlanta & West Point R. R., Atlanta, Ga.
Carolina, Clinchfield & O. Ry., Johnson City, Tenn.
Central of Ga. Rwy., Savannah, Ga.
Florida East Coast Ry., St. Augustine, Fla.
Georgia Railroad, Atlanta, Ga.
Illinois Central Railroad Co., Chicago, Ill.
Norfolk & Western Ry., Roanoke, Va.
Richmond-Washington Lines, Richmond, Va.
Seaboard Air Line, Norfolk, Va.
Southern Railway System, Washington, D. C.

Injectors.
Lunkenheimer Co., The, Cincinnati, O.
Randle Machinery Co., Cincinnati, Ohio.
Sellers & Co., Inc., Wm., Philadelphia, Pa.

Instruments. (Electrical.)
Weston Electrical Instrument Co., Newark, N. J.

Insulating Materials.
General Electric Co., Schenectady, N. Y.
Johns-Manville Co., H. W., New York, N. Y.

Insulation. (Wooden for Steam Pipes, etc.)
Ric-Wil Co., The, Cleveland, O.

Insurance.
Hartford Steam Boiler Inspection and Insurance Co., Hartford, Conn.
Jemison Real Estate & Insurance Co., Birmingham, Ala.

Interior Conduits.
National Metal Molding Co., Pittsburgh, Pa.

Investments. (Real Estate.)
Jemison Real Est. & Ins. Co., Birmingham, Ala.

Investment Securities.
Cummings, Prudden & Co., Toledo, O.
Edwards, Geo. B., New York, N. Y.
Electric Bond & Share Co., New York, N. Y.
Leach & Co., A. B., New York, N. Y.
Mercantile Trust Co., St. Louis, Mo.
Mercantile Trust & Deposit Co., Baltimore, Md.
Mississippi Valley Trust Co., St. Louis, Mo.
National City Co., The, New York, N. Y.
New First National Bank, Columbus, Ohio.
Nuven & Co., John, Chicago, Ill.
Orthwein, Walter E., St. Louis, Mo.
Powell, Garard & Co., Chicago, Ill.
Provident Savings Bank & Trust Co., Cincinnati, O.
Ridenour Co., Hugh, Columbus, O.
Scott, Townsend & Son, Baltimore, Md.
Sidney Spitzer & Co., Toledo, O.
Slayton & Co., W. L., Toledo, O.
Stacey & Brough, Toledo, O.

Iron.
Allgheny Steel Co., Pittsburgh, Pa.
Bourne-Fuller Co., The, Cleveland, O.
La Belle Iron Works, Steubenville, O.
Republic Iron & Steel Co., Youngstown, O.
Roanoke Steel Co., Inc., Roanoke, Va.
Schappi Const. Material Co., New York, N. Y.
Swedish Iron & Steel Corp., New York, N. Y.
Taylor Co., Wm. S., Chattanooga, Tenn.
Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.
Union Drawn Steel Co., Beaver Falls, Pa.
Wood Iron & Steel Co., Alan, Philadelphia, Pa.

Iron Fencing.
Stewart Iron Works Co., Cincinnati, Ohio.

Iron Ores.
Bette & Co., Anson G., Asheville, N. C.

Irrigation Machinery.
Cameron Steam Pump Wks., A. S., New York, N. Y.

Joist Hangers.
Van Dorn Iron Works Co., The, Cleveland, Ohio.

Knitting Machinery.
Scott & Williams, New York, N. Y.

Lace Leather.
Graton & Knight Mfg. Co., Worcester, Mass.
Schieren Co., Chas. A., New York, N. Y.

Ladders. (Rolling.)
Myers & Bros., F. E., Ashland, Ohio.

Lamps. (Arc and Incandescent.)
Boston-Economy Lamp Division, National Lamp Works of General Electric Co., Danvers, Mass.
General Electric Co., Schenectady, N. Y.
Piedmont Electric Co., Asheville, N. C.
Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.
Westinghouse Lamp Co., New York, N. Y.

Lamps. (Carbon and Tungsten.)
Newman Electric Lamp Co., Cincinnati, Ohio.

Lath. (Metal.)
Berger Mfg. Co., Canton, Ohio.
Consolidated Expanded Metal Co., Braddock, Pa.
Milwaukee Corrugating Co., Milwaukee, Wis.

Lawn Furniture. (Wire.)
Hollis Iron & Wire Works, J. E., Detroit, Mich.
Dufur & Co., Baltimore, Md.

Lights. (Portable Acetylene.)
Milburn Co., Alex., Baltimore, Md.

Limestone. (Building.)
Indiana Limestone Quarries' Assn., Bedford, Ind.

Liquor Filters.
International Filter Co., Chicago, Ill.

Lithographers, Engravers.
Young & Selden Co., Baltimore, Md.

Lockers.
STEEL.
Berger Mfg. Co., Canton, Ohio.

Locomotives.
INDUSTRIAL.
Haldwin Locomotive Wks., The, Philadelphia, Pa.
Climax Mfg. Co., Corry, Pa.
Jeffrey Mfg. Co., Columbus, O.
Porter Co., H. K., Pittsburgh, Pa.
Southern Iron & Equipment Co., Atlanta, Ga.

RAILWAY.
Baldwin Locomotive Wks., The, Philadelphia, Pa.
Porter Co., H. K., Pittsburgh, Pa.

Looms and Weaving Machinery.
Grompton & Knowles Loom Wks., Worcester, Mass.
Draper Corp., Hopedale, Mass.
Saco-Lowell Shops, Boston, Mass.

Lubricants.
Albany Lubricating Co., New York, N. Y.
Borne, Strymer Co., New York, N. Y.
Otis Elevator Co., New York, N. Y.
Standard Oil Co. of La., Baton Rouge, La.
Swan & Finch Co., New York, N. Y.
Texas Co., The, New York, N. Y.

Lubricants. (Graphite.)
Corrie & Co., Chas. Earl, Ashland, Ala.
Dixon Crucible Co., Joseph, Jersey City, N. J.

Lumber.
CHILING, FLOORING, SIDINGS.
Bacon & Sons, A. S., Savannah, Ga.
Cordele Sash, Door & Lumber Co., Cordele, Ga.

CREOSOTED.
American Creosote Works, New Orleans, La.
Creosoted Materials Co., Inc., New Orleans, La.

HEAVY CONSTRUCTION, FITCH PINE, ETC.
Bacon & Sons, A. S., Savannah, Ga.
Industrial Lumber Co., Elizabeth, La.

YELLOW PINE.
Bacon & Sons, A. S., Savannah, Ga.
Industrial Lumber Co., Elizabeth, La.

Lumber Buggies.
Soule Steam Feed Works, Meridian, Miss.

Lumber Stackers.
Soule Steam Feed Works, Meridian, Miss.

Machinery. (Special.)
American Machine & Foundry Co., Brooklyn, N. Y.
Bliss Co., E. W., Brooklyn, N. Y.
Clark Bros. Co., Olean, N. Y.
Columbus Iron Works Co., Columbus, Ga.
Kline, Louis T., Alpena, Mich.
Moore Bros., Indianapolis, Ind.
Salem Foundry & Machine Wks., Salem, Va.
Stratton & Bragg Co., Petersburg, Va.

Machinery and Supplies. (New and Second hand Bargains.)

American Metallic Packing Co., Lexington, Ky.
American Pressing Iron Co., New York, N. Y.

Azzinger Mchry. Co., W. O., Nashville, Tenn.
Birtwell, W. L., Philadelphia, Pa.

Blount & Co., J. I., Birmingham, Ala.
Boston Iron & Metal Co., Inc., Baltimore, Md.

Carey Co., Thos. F., New York, N. Y.
Cleveland Belting & Machinery Co., Cleveland, O.

Clifton-Pratt Co., The, Cincinnati, O.
Contractors' Mchry. & Supply Co., Pittsburgh, Pa.

Curtis-Willis Co., New York, N. Y.
Eagle Pipe Supply Co., Inc., New York, N. Y.

Easton Machinery Co., Easton, Pa.
Eclair Supply & Mchry. Co., Chicago, Ill.

Empire Cement & Limestone Co., Atlanta, Ga.
Empire Mchry. & Supply Corp., Norfolk, Va.

Empire Engineering Co., Inc., New York, N. Y.
Gardner, Inc., James T., Chicago, Ill.

Glover Machine Wks., Marietta, Ga.
Harris Bros. Co., Chicago, Ill.

Hirsch & Sons Mercantile Co., Cal., St. Louis, Mo.
Hitner's Sons Co., Henry A., Philadelphia, Pa.

Hoisting Engine Sales Co., New York, N. Y.
Hoisting Machinery Co., New York, N. Y.

International Equipment Co., Chicago, Ill.
Jones Machinery Co., K. L., A. J., Ga.

Joseph Iron Co., Isaac, Cincinnati, Ohio.
Jewel Supply & Equipment Co., Inc., Baltimore, Md.

Keystone Pipe & Supply Co., Butler, Pa.
Klein & Co., Nathan, New York, N. Y.

Lehman, Chas. T., Birmingham, Ala.
Lewis Co., Ralph H., Philadelphia, Pa.

Lodge & Shipley Machine Tool Co., Cincinnati, Ohio.
Machinery Warehouse & Sales Co., Chicago, Ill.

Males Co., The, New York, N. Y.
Mallory Machinery Corp., Baltimore, Md.

Marine Metal & Supply Co., New York, N. Y.
Mayer, F., Chicago, Ill.

Miller-Crippen Equipment Co., Inc., Syracuse, N. Y.
Modern Mchry. Exchange, New York, N. Y.

Mott's Sons, Geo. F., York, Pa.
National Machinery & Wrecking Co., Cleveland, Ohio.

New York Machinery Exchange, New York, N. Y.
Nusbaum & Co., V. M., Ft. Wayne, Ind.

O'Brien Machinery Co., Philadelphia, Pa.
Perry, Buxton, Jerome Co., Boston, Mass.

Pfannmuller Engineering Co., Chicago, Ill.
Pipe & Contractors Supply Co., New York, N. Y.

Potts & Co., Henry, Philadelphia, Pa.
Power Equipment Co., Philadelphia, Pa.

Power Machinery Exchange, Jersey City, N. J.
Preston & Co., Inc., Henry, New York, N. Y.

Price & Pratt, Norfolk, Va.
Randle Machinery Co., Cincinnati, O.

Randall Power Equipment Co., Indianapolis, Ind.
Sachse & Co., Geo., Philadelphia, Pa.

Sandler Bros., Inc., Baltimore, Md.
Seyfert's Sons, Inc., L. E., Philadelphia, Pa.

Shapiro, H., Baltimore, Md.
Shaw, Willis, Chicago, Ill.

Southern Machinery Exchange, Somerset, Ky.
South Side Dry & Mch. Wks., Charleston, W. Va.

Southwestern Mchry. Co., Ft. Smith, Ark.
Stark Co., S. L., Pittsburgh, Pa.

Stewart, S. J. (Electric), New Orleans, La.
Stamp Machinery Exchange, Tampa, Fla.

Tank Equipment Co., Inc., New York, N. Y.
Terwilliger Equipment Co., Philadelphia, Pa.

Texas Power & Light Co., Dallas, Tex.
Tilley Co., Inc., J. G., Bristol, Va.

Toomey, Frank, Inc., Philadelphia, Pa.
United States Equipment Co., Chicago, Ill.

Weller & Co., Birmingham, Ala.
Wayne Supply Co., Roy Co., Louisville, Ky.

Wicks Machinery Co., Jersey City, N. J.
Wilson Mchry. Co., St. Louis, Mo.

Zelnor Supply Co., Walter A., St. Louis, Mo.

Machine Tools.
Niles-Hement-Pond Co., New York, N. Y.

Magnetic Separators.
Buchanan Co., Inc., C. G., New York, N. Y.

Mail Chutes.
Cutler Mail Chute Co., Rochester, N. Y.

Mantels. (Wood and Tile.)
Northwestern Mantel Co., W. S., Memphis, Tenn.

Mechanical Draft.
Buffalo Forge Co., Buffalo, N. Y.

Clarae Fan Co., Kalamazoo, Mich.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Metaline.
Metaline Co., Long Island City, N. Y.

Metal. (For Tanks, Culverts, Roofing, etc.)
Whitaker-Gleason Co., Wheeling, W. Va.

Metal-Working Machinery.
Bliss Co., E. W., Brooklyn, N. Y.

- Nails.**
Hungerford Brass & Copper Co., U. T. Balto. Md.
CUT.
La Belle Iron Works, Steubenville, O.
Larkin & Co., J. K., New York, N. Y.
- WIRE, ALL KINDS.**
Atlantic Steel Co., Atlanta, Ga.
Gulf States Steel Co., Birmingham.
Larkin & Co., J. K., New York, N. Y.
- WIRE, CEMENT COATED.**
Larkin & Co., J. K., New York, N. Y.
- Nails and Spikes.**
Bethlehem Steel Co., South Bethlehem, Pa.
La Belle Iron Works, Steubenville, O.
Republic Iron & Steel Co., Youngstown, O.
Stimpson Co., Edwin B., New York, N. Y.
Youngstown Sheet & Tube Co., Youngstown, O.
- Nitre Pots and Eggs.**
Caroline Fdry. Co., Baltimore, Md.
- Nozzles. (Aerating Sprinkler, etc.)**
Spray Engineering Co., Boston, Mass.
- Oil Cans.**
Wall Mfg. Supply Co., P. Allegheny, Pa.
- Oil.** (Lubricating, etc.)
Albany Lubricating Co., New York, N. Y.
Borne, Strymer Co., New York, N. Y.
Gulf Refining Co., Pittsburgh, Pa.
Robinson & Son Co., Wm. C., Baltimore, Md.
Standard Oil Co. of La., Baton Rouge, La.
Swan & Finch Co., New York, N. Y.
Texas Co., The, New York, N. Y.
- Oil Well Machinery.**
Cook, A. D., Lawrenceburg, Ind.
Kerstone Pipe & Supply Co., Butler, Pa.
Williams Bros. Ithaca, N. Y.
- Ore Washing Machinery.**
Davis Fdry. & Mch. Wks., Rome, Ga.
McLanahan Stone Mch. Co., Hollidaysburg, Pa.
- Ornamental Iron Works.**
Bolles Iron & Wire Wks., J. E., Detroit, Mich.
Chattanooga Mfg. & Fdy. Co., Chattanooga, Tenn.
Dew Wire & Iron Works, Inc., Louisville, Ky.
Huntington Iron Works, Huntington, W. Va.
Roanoke Iron & Bridge Wks., Inc., Roanoke, Va.
Snead Architectural Iron Wks., Louisville, Ky.
Stewart Iron Works Co., Cincinnati, O.
- Oxygen.**
Linde Air Products Co., The, New York, N. Y.
- Oxy-Acetylene Welding and Cutting Outfit and Supplies.**
Milburn Co., Alex., Baltimore, Md.
Superior Oxy-Acetylene Mch. Co., Hamilton, Ohio
- Packing House Apparatus.**
Dayton Beater & Hoist Co., Dayton, O.
- Packing. (Asbestos, Metallic, Rubber, Leather, etc.)**
Booth Felt Co., Inc., Brooklyn, N. Y.
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Goodrich Co., B. F., Akron, O.
Goodyear Tire & Rubber Co., Akron, O.
Graton & Knight Mfg. Co., Worcester, Mass.
Johns-Manville Co., H. W., New York, N. Y.
Power Specialty Co., New York, N. Y.
- Paint.**
METAL SURFACES.
Dixon Crucible Co., Joseph, Jersey City, N. J.
PRESERVATIVE.
Arco Co., Cleveland, Ohio.
ROOFING, BUILDING, ETC.
Cameron & Barkley Co., Charleston, S. C.
Chattanooga Paint Co., Chattanooga, Tenn.
WATER. (For Interiors.)
Arco Co., Cleveland, Ohio.
- Paper. (Roofing, Building, Sheathing, etc.)**
Barrett Co., New York, N. Y.
Cameron & Barkley Co., Charleston, S. C.
- Partitions. (Metal, Wooden Rolling.)**
David Lupton's Sons Co., Philadelphia, Pa.
Van Hurlingen, J. M., Atlanta, Ga.
- Patent Attorneys.**
Brown, Eugene C., Washington, D. C.
Chandler & Chandler, Washington, D. C.
Coleman, Watson E., Washington, D. C.
Evans & Co., Victor J., Washington, D. C.
Kelly, J. R., Washington, D. C.
Kimmel, Geo. F., Washington, D. C.
Lacey, R. S. & A. B., Washington, D. C.
Lancaster & Allwine, Washington, D. C.
Shepherd & Campbell, Washington, D. C.
Whitaker, Norman T., Washington, D. C.
- Pattern Making.**
Altavista Foundry Co., Altavista, Va.
- Pavement Filler.**
Atlanta Gas Light Co., Atlanta, Ga.
Barrett Co., New York, N. Y.
- Paving Block. (Granite.)**
Granite Paving Block Mfrs. Assn., Boston, Mass.
- Paving Blocks. (Wood.)**
Crescent Materials Co., Inc., New Orleans, La.
Republic Creosoting Co., Indianapolis, Ind.
Southern Creosoting Co., Ltd., Shidell, La.
Southern Paving Const. Co., Chattanooga, Tenn.
Southern Wood Preserving Co., Atlanta, Ga.
- Paving Brick.**
Copeland-Ingis Shale Brick Co., Birm'gh'm, Ala.
Dunn Wire-Cut Lug Brick Co., Cincinnati, O.
Southern Clay Mfg. Co., Chattanooga, Tenn.
Southern Paving Brick Mfg. Assn., Birmingham, Ala.
Standard Brick Co., Macon, Ga.
- Paving Mixers. (Concrete.)**
American Cement Mch. Co., Inc., Keokuk, Ia.
Blystone Mfg. Co., Cambridge Springs, Pa.
Jaeger Machine Co., The, Columbus, O.
Ransome Concrete Mchry. Co., Dannelen, N. J.
Smith Co., T. L., Milwaukee, Wis.
Standard Stone & Supply Co., Pittsburgh, Pa.
Waterloo Cement & Mchry. Corp., Waterloo, Iowa
- Paving Plants. (Asphalt.)**
Barber Asphalt Paving Co., Iroquois Wks., Buffalo, N. Y.
Cummer & Son Co., F. D., Cleveland, N. Y.
East Iron & Machine Co., The, Lima, O.
Warren Bros. Co., Boston, Mass.
- Pay Roll Machines.**
Barrett Changer Co., Chicago, Ill.
- Perforated Metal.**
Caldwell & Son, Co., H. W., Chicago, Ill.
Erdle Perforating Co., Rochester, N. Y.
Hendricks Mfg. Co., The, Carbondale, Pa.
Manhattan Perforated Metal Co., New York, N. Y.
Mott & Sons, Charles, Jersey City, N. J.
- Petroleum Refiners.**
Couden & Co., Tulsa, Okla.
Gulf Refining Co., Pittsburgh, Pa.
Sapulpa Refining Co., Sapulpa, Okla.
Standard Oil Co. of La., Baton Rouge, La.
Texas Co., The, New York, N. Y.
- Phosphate Machinery.**
American Process Co., New York, N. Y.
Bailey-Lebby Co., The, Charleston, S. C.
Bradley Pulverizer Co., Allentown, Pa.
Cameron & Barkley Co., Charleston, S. C.
E-B Pulverizer Co., New York, N. Y.
- McLanahan Stone Mch. Co., Hollidaysburg, Pa.**
Raymond Impact Pulv. Co., Chicago, Ill.
Valk & Murdoch Co., Charleston, S. C.
- Pig Iron.**
The Alabama Co., Birmingham, Ala.
Bethlehem Steel Co., South Bethlehem, Pa.
Bourne-Fuller Co., The, Cleveland, O.
La Belle Iron Works, Steubenville, O.
Republic Iron & Steel Co., Youngstown, O.
Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.
- Piling. (Creosoted.)**
American Creosote Works, New Orleans, La.
Creosoted Material Co., Inc., New Orleans, La.
Southern Creosoting Co., Ltd., Shidell, La.
Southern Paving Const. Co., Chattanooga, Tenn.
- Pillow Blocks.**
Caldwell & Son, W. E., Louisville, Ky.
Golden's Foundry & Machine Co., Columbus, Ga.
Medart Patent Pulley Co., St. Louis, Mo.
- Pipe.**
La Belle Iron Works, Steubenville, O.
National Tube Co., Pittsburgh, Pa.
Youngstown Sheet & Tube Co., Youngstown, O.
- CAST IRON.**
American Cast Iron Pipe Co., Birmingham, Ala.
Cast Iron Pipe Publicity Bureau, New York, N. Y.
Central Foundry Co., New York, N. Y.
Glamorgan Pipe & Foundry Co., Lynchburg, Va.
Hammond-Hyrd Iron Co., Birmingham, Ala.
U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.
Wood & Co., R. D., Philadelphia, Pa.
- FRICK CO., WAYNESBORO, PA.**
YORK MFG. CO., YORK, PA.
- RIVETED.**
Abendroth & Root Mfg. Co., Newburgh, N. Y.
New Bern I. Wks. & S. Co., Inc., New Bern, N. C.
- SECOND HAND.**
Eagle Pipe Supply Co., Inc., New York, N. Y.
James F. Griffith, Philadelphia, Pa.
Keystone Pipe & Supply Co., Butler, Pa.
Marine Metal & Supply Co., New York, N. Y.
Pipe & Contractors Supply Co., New York, N. Y.
- SPIRAL RIVETED.**
Abendroth & Root Mfg. Co., Newburgh, N. Y.
American Spiral Pipe Works, Chicago, Ill.
- SPIRAL STEEL.**
Standard Spiral Pipe Wks., Chicago, Ill.
- STEEL.**
National Tube Co., Pittsburgh, Pa.
La Belle Iron Works, Steubenville, O.
Larkin & Co., J. K., New York, N. Y.
Republic Iron & Steel Co., Youngstown, Ohio
Youngstown Sheet & Tube Co., Youngstown, Ohio
- WOOD.**
Michigan Pipe Co., Bay City, Mich.
Ric-Wil Co., The, Cleveland, O.
Washington Pipe & Foundry Co., Tacoma, Wash.
Wyckoff & Son Co., A. Elmira, N. Y.
- WROUGHT IRON.**
Larkin & Co., J. K., New York, N. Y.
Youngstown Sheet & Tube Co., Youngstown, O.
- Pipe Fittings.**
American Cast Iron Pipe Co., Birmingham, Ala.
Crane Co., Chicago, Ill.
James F. Griffith, Philadelphia, Pa.
Larkin & Co., J. K., New York, N. Y.
Lunkenheimer Co., The, Cincinnati, O.
York Mfg. Co., York, Pa.
- Pipe Unions and Joints.**
Dart Mfg. Co., E. M., Providence, R. I.
- Pitch.**
Barrett Co., New York, N. Y.
- Plates.**
FLOOR.
American Pressed Steel Co., Philadelphia, Pa.
STEEL.
Allegheny Steel Co., Pittsburgh, Pa.
Cambria Steel Co., Philadelphia, Pa.
Cincinnati Iron & Steel Co., Cincinnati, O.
Wood Iron & Steel Co., Alan, Philadelphia, Pa.
- Plate Glass Settings. (Safety and Burglar Proof.)**
Zouri Drawn Metals Co., Chicago, Ill.
- Plumbing. (For Cotton Mills.)**
Southern States Supply Co., Columbia, S. C.
- Poles. (Cheatnut, Electric, Light and Telephone.)**
Davison & McBryde Nashville, Tenn.
- Poles. (Creosoted.)**
American Creosote Works, New Orleans, La.
Creosoted Material Co., Inc., New Orleans, La.
Southern Creosoting Co., Ltd., Shidell, La.
Southern Exchange Co., New York, N. Y.
Southern Paving Const. Co., Chattanooga, Tenn.
Southern Wood Preserving Co., Atlanta, Ga.
- Polishing Machinery. (Wheels and Blocks.)**
Carborundum Co., Niagara Falls, N. Y.
Vitrified Wheel Co., Westfield, Mass.
- Posts. (Cast Iron) [Railway and Highway.]**
U. S. Cast Iron Pipe & Foundry Co., Burlington, N. J.
- Post Caps.**
Van Dorn Iron Works Co., The, Cleveland, Ohio
- Power Transmission Machinery.**
Alvey-Ferguson Co., Inc., Cincinnati, Ohio.
Bailey-Lebby Co., Charleston, S. C.
Caldwell & Son Co., H. W., Chicago, Ill.
Caldwell & Son, W. E., Louisville, Ky.
Conway & Company, Cincinnati, Ohio.
Cresson-Morris Co., Philadelphia, Pa.
Dodge Sales & Engineering Co., Mishawaka, Ind.
Golden's Foundry & Machine Co., Columbus, Ga.
Jeffrey Mfg. Co., Columbus, Ohio
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Link-Belt Co., Philadelphia, Pa.
Medart Patent Pulley Co., St. Louis, Mo.
Morris Chain Co., Ithaca, N. Y.
Safety First Mfg. Co., Washington, D. C.
Schofield Iron Works, Macon, Ga.
Smith-Courtney Co., Richmond, Va.
Wolf Co., The, Chambersburg, Pa.
Wood's Sons, T. B., Chambersburg, Pa.
- Preservative. (Canvas.)**
Robeson Preserve Products Co., Fort Huron, Mich.
- Presses.**
BALING, COTTONSEED OIL, ETC., HYDRAULIC AND POWER.
Hauer Bros. Co., The, Springfield, O.
Boomer & Boschert Press Co., Syracuse, N. Y.
Cardwell Machine Co., Richmond, Va.
Chicago Baling Press Co., Chicago, Ill.
Continental Gm Co., Birmingham, Ala.
French Oil Mill Mchry. Co., The, Piqua, O.
Murray Co., The, Atlanta, Ga.
Ripley Foundry & Machine Co., Ripley, Ohio.
Saco-Lowell Shops, Boston, Mass.
- METAL STAMPING.**
Stimpson Co., Edwin B., Brooklyn, N. Y.
- STAMPING.**
Ams Machine Co., Max, Bridgeport, Conn.
Bliss Co., E. W., Brooklyn, N. Y.
- Printers. (Book, Catalog, Job, etc.)**
Fleet-McGinley Co., Baltimore, Md.
- Prison Work.**
Van Dorn Iron Works, The, Cleveland, Ohio.
- Pulleys.**
FRICTION CLUTCH.
Caldwell & Son Co., H. W., Chicago, Ill.
Caldwell & Son, W. E., Louisville, Ky.
Cresson-Morris Co., Philadelphia, Pa.
Dodge Sales & Engineering Co., Mishawaka, Ind.
Medart Patent Pulley Co., St. Louis, Mo.
Wood's Sons Co., T. B., Chambersburg, Pa.
- STEEL RIM.**
Medart Patent Pulley Co., St. Louis, Mo.
- WOOD SPLIT.**
Caldwell & Son Co., H. W., Chicago, Ill.
Medart Patent Pulley Co., St. Louis, Mo.
- Pulleys, Shafting and Hangers.**
Caldwell & Son Co., H. W., Chicago, Ill.
Conway & Company, Cincinnati, Ohio.
Cresson-Morris Co., Philadelphia, Pa.
Dodge Sales & Engineering Co., Mishawaka, Ind.
Golden's Foundry & Machine Co., Columbus, Ga.
Jeffrey Mfg. Co., Columbus, Ohio
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Medart Patent Pulley Co., St. Louis, Mo.
Wood's Sons Co., T. B., Chambersburg, Pa.
- Pulverizers.**
Austin Mfg. Co., Chicago, Ill.
Bradley Pulverizer Co., Allentown, Pa.
Grundier Pat. Crusher & Pulv. Co., St. Louis, Mo.
Jeffrey Mfg. Co., Columbus, O.
K-B Pulverizer Co., Inc., New York, N. Y.
Lehigh Car. Wks. & Aile Wks., Catawqua, Pa.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Sturtevant Mill Co., Boston, Mass.
Taylor Engineering & Mfg. Co., Allentown, Pa.
Western Wheeled Scraper Co., Aurora, Ill.
Williams Pat. Crusher & Pulv. Co., Chicago, Ill.
- Pumping Machinery.**
Boicourt Co., Fort Worth, Texas.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Cook, A. D., Lawrenceburg, Ind.
Dayton-Dick Co., Quincy, Ill.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Emerson Pump & Valve Co., Alexandria, Va.
Goulds Mfg. Co., Seneca Falls, N. Y.
Holland Machine Co., New York, N. Y.
Holland Machine Co., New York, N. Y.
Moffatt Machy. Mfg. Co., Charlotte, N. C.
Morris Machine Works, Baldwinville, N. Y.
Mutual Fdry. & Machine Co., Atlanta, Ga.
Myers & Bro., F. E., Ashland, Ohio.
National Transit Pump & Machine Co., Oil City, Pa.
Reilly Mfg. Co., J. J., Louisville, Ky.
Remington Oil Eng. Co., New York, N. Y.
Vogt Bros. Mfg. Co., Louisville, Ky.
Wood & Co., R. D., Philadelphia, Pa.
Worthington Pump & Mchry. Corp., New York, N. Y.
- Pumps.**
AIR.
Blakeslee Mfg. Co., Du Quoin, Ill.
AIR LIFT.
Ingersoll-Rand Co., New York, N. Y.
Sullivan Mchry. Co., Chicago, Ill.
- ASPHALT AND ROAD OIL.**
Kinney Mfg. Co., Boston, Mass.
- BOILER FEED.**
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Baltimore Pump Co., Baltimore, Md.
Blakeslee Mfg. Co., Du Quoin, Ill.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Dayton-Dick Co., Quincy, Ill.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Goulds Mfg. Co., Seneca Falls, N. Y.
Holland Machine Co., New York, N. Y.
Moffatt Machinery Mfg. Co., Charlotte, N. C.
Murray Iron Wks. Co., Burlington, Iowa.
Myers & Bro., F. E., Ashland, Ohio.
Reilly Mfg. Co., J. J., Louisville, Ky.
Worthington Pump & Mchry. Corp., New York, N. Y.
- CENTRIFUGAL.**
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Buffalo Steam Pump Co., Buffalo, N. Y.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Dayton-Dick Co., Quincy, Ill.
Goulds Mfg. Co., Seneca Falls, N. Y.
Holland Machine Co., New York, N. Y.
Morris Machine Works, Baldwinville, N. Y.
Mutual Fdry. & Machine Co., Atlanta, Ga.
Whitman Agricultural Co., St. Louis, Mo.
Wood & Co., R. D., Philadelphia, Pa.
Worthington Pump & Mchry. Corp., New York, N. Y.
Zin-Ho Mfg. Co., Chicago, Ill.
- DEEP WELL.**
Boicourt Co., Fort Worth, Texas.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Cook, A. D., Lawrenceburg, Ind.
Deming Co., Salem, Ohio
Goulds Mfg. Co., Seneca Falls, N. Y.
Holland Machine Co., New York, N. Y.
Layne & Bowler Co., Memphis, Tenn.
Whitman Agricultural Co., St. Louis, Mo.
- DIAPHRAGM.**
Waterloo Cement Mchry. Corp., Waterloo, Iowa.
- DREDGING.**
Buffalo Steam Pump Works, Buffalo, N. Y.
Holland Machine Co., New York, N. Y.
Morris Machine Wks., Baldwinville, N. Y.
Mutual Fdry. & Machine Co., Atlanta, Ga.
Wood & Co., R. D., Philadelphia, Pa.
- HYDRAULIC.**
Boemer & Boschert Press Co., Syracuse, N. Y.
Buffalo Steam Pump Co., Buffalo, N. Y.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Cardwell Machine Co., Richmond, Va.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Deming Co., Salem, Ohio
French Oil Mill Mchry. Co., The, Piqua, O.
Holland Mach. Co., New York, N. Y.
- STEAM.**
Baltimore Pump Co., Baltimore, Md.
Blakeslee Mfg. Co., Du Quoin, Ill.
Buffalo Steam Pump Co., Buffalo, N. Y.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Cameron & Barkley Co., Charleston, S. C.
Cook, A. D., Lawrenceburg, Ind.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Emerson Co., Salem, Ohio
Emerson Pump & Valve Co., Alexandria, Va.
Murray Iron Works Co., Burlington, Iowa.
National Transit Pump & Machine Co., Oil City, Pa.
Reilly Mfg. Co., J. J., Louisville, Ky.
Worthington Pump & Mchry. Corp., New York, N. Y.
- TRIPLE POWER.**
Deming Co., Salem, Ohio.
Whitman Agricultural Co., St. Louis, Mo.
- VACUUM.**
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
- WATER-WORKS.**
Boicourt Co., Fort Worth, Texas.
Dayton-Dick Co., Quincy, Ill.
Deming Co., Salem, O.
Goulds Mfg. Co., Seneca Falls, N. Y.
Holland Machine Co., New York, N. Y.
- Pump Leathers.**
Graton & Knight Mfg. Co., Worcester, Mass.
- Punching and Shearing Machinery.**
Bliss Co., E. W., Brooklyn, N. Y.
- Pyrites Burners.**
Caroline Fdry. Co., Baltimore, Md.
- Railroads. (Offering Industrial, Agricultural and Commercial Opportunities.)**
Atlantic Coast Line, Wilmington, N. C.
Atlantic & West Point R. R., Atlanta, Ga.
Caroline, Glenfield & O. R. R., Jackson City, Tenn.
Central Gm. Rwy., Savannah, Ga.
Florida East Coast Rwy., St. Augustine, Fla.
Georgia Railroad, Atlanta, Ga.
Illinois Central Railroad Co., Chicago, Ill.
Kansas City Southern Railway Co., Kansas City, Mo.
Norfolk & Western Ry., Roanoke, Va.
Richmond-Washington Lines, Richmond, Va.
Seaboard Air Line, Norfolk, Va.
Southern Railway System, Washington, D. C.
Winston-Salem Southbound Rwy. Co., Winston-Salem, N. C.
- Railroad Equipment and Supplies. (New and Second-hand.)**
American Frog & Switch Co., Hamilton, O.
Arzinger Mchry. Co., W. O., Nashville, Tenn.
- Bailey-Lebby Co., The, Charleston, S. C.**
Benjamin Equipment Co., Harry, St. Louis, Mo.
Birmingham Rail & Loco. Co., Birmingham, Ala.
Caray Co., Thos. F., New York, N. Y.
Cincinnati Frog & Switch Co., Cincinnati, O.
Equity Equipment Co., The, Cincinnati, O.
Foster Co., L. E., Pittsburgh, Pa.
Gardner, Inc., James T., Chicago, Ill.
Georgia Car & Locomotive Co., Atlanta, Ga.
Granville Co., Joseph D., St. Louis, Mo.
Harris Bros. Co., Chicago, Ill.
Hirsch & Sons Mercantile Co., Cal., St. Louis, Mo.
Hoffman & Co., Inc., R. G., Baltimore, Md.
International Equipment Co., Chicago, Ill.
Joseph Iron Co., The, Isaac, Cincinnati, Ohio.
Kilby Frog & Switch Co., Birmingham, Ala.
Kleinhaus Co., H., Pittsburgh, Pa.
Males Co., The, New York, N. Y.
Metzger, Louis H., Mobile, Ala.
Miller-Crippen Equipment Co., Inc., Syracuse, N. Y.
National Steel Rail Co., St. Louis, Mo.
Peckham & Co., Fred A., Cleveland, Ohio.
Perry, Buxton Doane Co., Boston, Mass.
Robinson & Orr., Pittsburgh, Pa.
Shaw, Willis, Chicago, Ill.
Sherwood, E. C., New York, N. Y.
Southern Iron & Equipment Co., Atlanta, Ga.
United States Equipment Co., Chicago, Ill.
United States Rail Co., Cumberland, Md.
Weir Frog Co., Cincinnati, O.
West Virginia Rail Co., Huntington, W. Va.
Wilson & Co., E. H., Philadelphia, Pa.
Wilson Mach. Co., St. Louis, Mo.
Yampolsky, Geo., Clarkburg, W. Va.
Zelnicke Supply Co., Walter A., St. Louis, Mo.
- Railroad Frogs and Switches.**
American Frog & Switch Co., Hamilton, O.
Cincinnati Frog & Switch Co., Cincinnati, O.
Frank M. K., Pittsburgh, Pa.
Kilby Frog & Switch Co., Birmingham, Ala.
Metzger, Louis H., Mobile, Ala.
Robinson & Orr, Pittsburgh, Pa.
Weir Frog Co., Cincinnati, O.
- Rails. (Steel.)**
American Metallic Packing Co., Inc., Lexington, Ky.
Bethlehem Steel Co., South Bethlehem, Pa.
Benjamin Equipment Co., Harry, St. Louis, Mo.
Burgheim Co., Hugo, Cincinnati, O.
Cambria Steel Co., Philadelphia, Pa.
Caray Co., Thos. F., New York, N. Y.
Carnegie Steel Co., Pittsburgh, Pa.
Foster Co., L. E., Pittsburgh, Pa.
Frank, J. E., Atlanta, Ga.
Frank, M. K., Pittsburgh, Pa.
Granville Co., Joseph D., St. Louis, Mo.
Hoffman & Co., Inc., R. G., Baltimore, Md.
Lackawanna Steel Co., Lackawanna, N. Y.
Levis & Co., Henry, Philadelphia, Pa.
Metzger, Louis H., Mobile, Ala.
National Steel Rail Co., St. Louis, Mo.
Republic Iron & Steel Co., Youngstown, O.
Robinson & Orr, Pittsburgh, Pa.
Sherwood, E. C., New York, N. Y.
Southern Iron & Equipment Co., Atlanta, Ga.
Sweet's Steel Co., Williamsport, Pa.
Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.
United States Rail Co., Cumberland, Md.
West Virginia Rail Co., Huntington, W. Va.
Wilson & Co., E. H., Philadelphia, Pa.
Yampolsky, Geo., Clarkburg, W. Va.
Zelnicke Supply Co., Walter A., St. Louis, Mo.
- Railings. (Iron Pipe.)**
Pipe Railing Const. Co., Long Island City, N. Y.
- Railings and Grilles. (Brass.)**
Newman Mfg. Co., Cincinnati, O.
- Railways. (Industrial.)**
Chase Fdry. & Mfg. Co., Columbus, O.
Cincinnati Frog & Switch Co., Cincinnati, O.
Hunt Co., Inc., C. W., West New Brighton, N. Y.
- Railway Repair Shops Equipment.**
Niles-Bement-Pond Co., New York, N. Y.
- Real Estate Investment.**
Jemison Real Estate & Ins. Co., Birmingham, Ala.
- Refrigerating Machinery and Apparatus.**
Brocht Co., St. Louis, Mo.
De La Vergne Mch. Co., New York, N. Y.
Vilter Mfg. Co., Milwaukee, Wis.
Vogt Bros. Mfg. Co., Louisville, Ky.
Vogt Mch. Co., Inc., Henry, Louisville, Ky.
York Mfg. Co., York, Pa.
- Reinforcing Plates.**
Berger Mfg. Co., Canton, Ohio.
- Rendering Tanks.**
Dayton Beater & Hoist Co., Dayton, Ohio
- River and Harbor Improvements. (Dredging Docks, Wharves, etc.)**
Atlantic Gulf and Pacific Co., New York, N. Y.
- Rivets. (Copper, Iron, Brass, Steel.)**
The Newtville Works, New Brunswick, N. J.
Stimpson Co., Edwin B., New York, N. Y.
- Riveters. (Pneumatic.)**
Ingersoll-Rand Co., New York, N. Y.
- Road Expansion Joints.**
Asbestos Protected Metal Co., Pittsburgh, Pa.
Pioneer Asphalt Co., Lawrenceville, Ill.
- Road and Street Machinery.**
Austin-Western Road Mchry. Co., The, Chicago, Ill.
Ball Engine Co., Erie, Pa.
Baker Mfg. Co., The, Springfield, Ill.
Barber Asphalt Paving Co., Philadelphia, Pa.
Buffalo-Springfield Roller Co., Springfield, O.
Erie Machine Shops, Erie, Pa.
Keystone Driller Co., Beaver Falls, Pa.
Kinbourne & Jacobs Mfg. Co., Columbus, O.
Kinney Mfg. Co., Boston, Mass.
Northwestern Steel & Iron Wks., Eau Claire, Wis.
Ruggie-Cole Engineering Co., York, Pa.
The Automatic Shovel Co., Lorain, O.
Universal Road Mchry. Co., Kingston, N. Y.
Western Wheeled Scraper Co., Aurora, Ill.
- Road and Street Materials.**
Atlanta Gas Light Co., Atlanta, Ga.
Barber Asphalt Paving Co., Philadelphia, Pa.
Barrett Co., New York, N. Y.
Birmingham Slag Co., Birmingham, Ala.
Bittling Paving Co., The, New York, N. Y.
Empire Cement & Limestone Co., Atlanta, Ga.
Standard Oil Co. of La., Baton Rouge, La.
Texas Co., The, New York, N. Y.
U. S. Asphalt Refining Co., New York, N. Y.
Warren Bros. Co., Boston, Mass.
- Road Binders.**
Atlanta Gas Light Co., Atlanta, Ga.
Barber Asphalt Paving Co., Philadelphia, Pa.
Barrett Co., New York, N. Y.
U. S. Asphalt Refining Co., New York, N. Y.
- Road Grader and Scrapers.**
Austin-Western Road Mchry. Co., Chicago, Ill.
Ball Engine Co., Erie, Pa.
Western Wheeled Scraper Co., Aurora, Ill.
- Road Oils and Preservatives.**
Atlanta Gas Light Co., Atlanta, Ga.
Barber Asphalt Paving Co., Philadelphia, Pa.
Barrett Co., New York, N. Y.
Buffalo-Springfield Roller Co., Springfield, O.
Erie Mach. Shops, Erie, Pa.
Universal Road Mchry. Co., Kingston, N. Y.
- Road Oiling Machinery.**
Kinney Mfg. Co., Boston, Mass.
- Road Roller. (Steam.)**
Austin-Western Road Mchry. Co., The, Chicago, Ill.
Barber Asphalt Paving Co., Iroquois Wks., Buffalo, N. Y.
- Road Roller. (Horse.)**
Buffalo-Springfield Roller Co., Springfield, O.
Erie Mach. Shops, Erie, Pa.
Universal Road Mchry. Co., Kingston, N. Y.

- Road Scarifiers.**
Buffalo Springfield Roller Co., Springfield, O.
- Roofing.**
CEMENT TILES.
American Cement Tile Mfg. Co., Pittsburgh, Pa.
READY PREPARED. (Felt, Tar, Asbestos, Asphalt.)
American Sheet & Tin Plate Co., Pittsburgh, Pa.
Asbestos Protected Metal Co., Pittsburgh, Pa.
Barrett Co., New York, N. Y.
Cameron & Barkley Co., Charleston, S. C.
Flintkote Co., Boston, Mass.
John-Manville Co., H. W., New York, N. Y.
METAL SHINGLES.
Berger Mfg. Co., Canton, Ohio.
Cortright Metal Roofing Co., Philadelphia, Pa.
Edwards Mfg. Co., The Cincinnati, O.
Hyndman Roofing Co., Cincinnati, O.
Merchant & Evans Co., Philadelphia, Pa.
Milwaukee Corrugating Co., Milwaukee, Wis.
Southern Sheet & Tin Plate Co., Ashland, Ky.
SLATE.
East Bangor Consol. Slate Co., East Bangor, Pa.
Johnson, E. J., New York, N. Y.
- Roofing and Siding. (Metal.)**
American Sheet & Tin Plate Co., Pittsburgh, Pa.
Berger Mfg. Co., Canton, Ohio.
Cameron & Barkley Co., Charleston, S. C.
Cortright Metal Roofing Co., Philadelphia, Pa.
Edwards Mfg. Co., The Cincinnati, O.
Hyndman Roofing Co., Cincinnati, O.
Merchant & Evans Co., Philadelphia, Pa.
Milwaukee Corrugating Co., Milwaukee, Wis.
Southern Sheet & Tin Plate Co., Ashland, Ky.
Steel Products Co., The Savannah, Ga.
Tennessee Metal Culvert Co., Nashville, Tenn.
Whitaker-Glessner Co., Wheeling, W. Va.
Youngstown Sheet & Tube Co., Youngstown, O.
- Rope.**
MANILA, SIAL, HEMP, ETC.
Broderick & Bascom Rope Co., St. Louis, Mo.
Columbian Rope Co., Auburn, N. Y.
Waterbury Co., New York, N. Y.
Wood's Sons Co., T. B., Chambersburg, Pa.
WIRE TRANSMISSION, HOISTING, HAULAGE.
American Steel & Wire Co., Chicago, Ill.
Broderick & Bascom Rope Co., St. Louis, Mo.
Hunt Co., Inc., C. W., West New Brighton, N. Y.
Kohlberg's Sons Co., John A., Trenton, N. J.
Waterbury Co., New York, N. Y.
- Rope Drives.**
Caldwell & Son Co., H. W., Chicago, Ill.
Cooper Co., C. & G., Mt. Vernon, O.
Cresson-Morris Co., Philadelphia, Pa.
Dodge Sales & Engineering Co., Mishawaka, Ind.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Medart Patent Pulley Co., St. Louis, Mo.
Waterbury Co., New York, N. Y.
Wood's Sons Co., T. B., Chambersburg, Pa.
- Rubber Goods.**
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Eureka Fire Hose Mfg. Co., New York, N. Y.
Goodrich Co., B. F., Akron, Ohio.
Goodyear Tire & Rubber Co., Akron, Ohio.
- Rules.**
BOXWOOD.
Lufkin Rule Co., Saginaw, Mich.
SPRING JOINT WOOD.
Lufkin Rule Co., Saginaw, Mich.
STEEL.
Lufkin Rule Co., Saginaw, Mich.
Starrett Co., L. S., Athol, Mass.
- Sales and Vaults.**
Barnes Safe & Vault Co., Richmond, Va.
National Safe & Lock Co., Cleveland, Ohio.
York Safe & Lock Co., York, Pa.
- Sand.**
Arundel Sand & Gravel Co., Baltimore, Md.
Cook & Laurie Gravel Co., Montgomery, Ala.
Guadalupe River Navigation Co., Victoria, Texas.
Kirkpatrick Sand & Cement Co., Birmingham, Ala.
Macon Fuel & Supply Co., Macon, Ga.
Martin & Davis, Bowling Green, Va.
- Sand Dryers.**
American Process Co., New York, N. Y.
Ripley Foundry & Mch. Co., Ripley, O.
Ruggles-Coles Engineering Co., York, Pa.
- Sand Mixers. (For Foundations.)**
Blystone Mfg. Co., Cambridge Springs, Pa.
Dunning, W. D., Syracuse, N. Y.
- Sap Stain Preventive.**
Church & Dwight Co., New York, N. Y.
- Sash Chain.**
Niagara Falls Metal Stg. Wks., Niagara Falls, N. Y.
- Sash. (Wood.)**
Cordale Sash, Door & Lumber Co., Cordale, Ga.
Oettinger Lbr. Co., Greensboro, N. C.
- Saws.**
Hutter Bros. Saw Mfg. Co., Inc., Rochester, N. Y.
Saws. (Hack.)
Starrett Co., L. S., Athol, Mass.
- Sawmill Dogs.**
Soule Steam Feed Works, Meridian, Miss.
- Sawmill Machinery.**
Bailey-Leiby Co., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
Clark Bros. Co., Olean, N. Y.
Mecklenburg Iron Works, Charlotte, N. C.
Schofield Iron Works, Macon, Ga.
- Saw Sharpeners.**
Carborundum Co., Niagara Falls, N. Y.
Vitrified Wheel Co., Westfield, Mass.
- Scale Preventive. (Boiler.)**
Boiler-Kote Co., Chicago, Ill.
- Scales.**
Standard Scale & Supply Co., Pittsburgh, Pa.
- Scales. (Dial for R. R. Factory Warehouses.)**
American Kren Scale Co., New York, N. Y.
- Scrapers. (Power.)**
Sauerman Bros., Chicago, Ill.
- Scrapers. (Road and Street.)**
Baker Mfg. Co., The Springfield, Ill.
- Scrap Iron and Steel.**
Benjamin Equipment Co., Harry, St. Louis, Mo.
Ferry, Buxton Deane Co., Boston, Mass.
Pittman Iron & Metal Co., Baltimore, Md.
Shapiro, B., Baltimore, Md.
- Screenings. (Fly Window and Door.)**
Ludlow-Saylor Wire Co., St. Louis, Mo.
New Jersey Wire Cloth Co., Trenton, N. J.
- Screenings. (Sand, Gravel, Stone, Coal, Ore, etc.)**
Davis Foundry & Machine Works, Rome, Ga.
Erdie Performing Co., Rochester, N. Y.
Hendrick Mfg. Co., Carbondale, Pa.
Jeffrey Mfg. Co., Columbus, O.
Link Belt Co., Philadelphia, Pa.
Ludlow-Saylor Wire Co., St. Louis, Mo.
McLanahan-Stone Mch. Co., Hollidaysburg, Pa.
Hunt & Sons, Charles, Jersey City, N. J.
New Jersey Wire Cloth Co., Trenton, N. J.
Starbuck Mill Co., Boston, Mass.
Troyer Mfg. & Mfg. Co., Allentown, Pa.
- Screenings. (For Concrete and Road Const.)**
American Ballast Co., Knoxville, Tenn.
- Screws.**
MACHINE.
Progressive Mfg. Co., Torrington, Conn.
Stimpson Co., Edwin B., New York, N. Y.
SAFETY SET.
Stimpson Co., Edwin B., New York, N. Y.
- Screw Machine Products.**
Progressive Mfg. Co., Torrington, Conn.
- Separators. (Dust.)**
Buffalo Forge Co., Buffalo, N. Y.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
- Septic Tanks.**
Cement Products Co., Wilmington, N. C.
Macon Sewer Pipe Wks., Macon, Ga.
Sanitary Engineering Co., Charlotte, N. C.
- Settings for Plate Glass. (Safety and Burglar Proof.)**
Zouri Drawn Metals Co., Chicago, Ill.
- Sewage-Disposal Plant.**
Cement Products Co., Wilmington, N. C.
Sanitary Engineering Co., Charlotte, N. C.
- Sewage-Pumping and Disposal Apparatus**
Pacific Flush-Tank Co., New York, N. Y.
- Sewer-Flushing Siphons.**
Pacific Flush-Tank Co., New York, N. Y.
- Sewer Joint Compounds.**
Pacific Flush-Tank Co., New York, N. Y.
- Sewer Pipe. (Vitrified.)**
Bannon Pipe Co., P., Louisville, Ky.
Cannelton Sewer Pipe Co., Cannelton, Ind.
Macon Sewer Pipe Wks., Macon, Ga.
Owensboro Sewer Pipe Co., Owensboro, Ky.
Stevens Bros. & Co., Stevens Pottery, Ga.
- Shafting.**
COLD ROLLED STEEL.
American Steel & Wire Co., Chicago, Ill.
POLISHED STEEL.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Medart Patent Pulley Co., St. Louis, Mo.
Republic Iron & Steel Co., Youngstown, O.
Union Drawn Steel Co., Beaver Falls, Pa.
- Sharpening Stones.**
Carborundum Co., Niagara Falls, N. Y.
Vitrified Wheel Co., Westfield, Mass.
- Sheet Brass and Copper.**
Hawthorn Bros. & Copper Co., U. T., Balt., Md.
McKenna Brass & Mfg. Co., Inc., Pittsburgh, Pa.
- Sheet Metal Work.**
Alex. Milburn Co., Baltimore, Md.
National Blow Pipe & Mfg. Co., New Orleans, La.
Niagara Falls Metal Stg. Wks., Niagara Falls, N. Y.
Shreveport Blow Pipe & S. I. Wks., Inc., Shreveport, La.
Steel Products, The Savannah, Ga.
Tennessee Metal Culvert Co., Nashville, Tenn.
- Sheet Metal Working Machinery.**
Bliss Co., E. W., Brooklyn, N. Y.
Stimpson Co., Edwin B., Brooklyn, N. Y.
- Sheet Steel and Iron.**
American Sheet & Tin Plate Co., Pittsburgh, Pa.
Cincinnati Iron & Steel Co., Cincinnati, O.
La Belle Iron Works, Steubenville, O.
Republic Iron & Steel Co., Youngstown, O.
Southern Sheet & Tin Plate Co., Ashland, Ky.
Tennessee Coal, Iron & R. R. Co., Birm'gh'm, Ala.
Whitaker-Glessner Co., Wheeling, W. Va.
Wood Iron & Steel Co., Alan, Philadelphia, Pa.
Youngstown Sheet & Tube Co., Youngstown, O.
- Shelving. [(Steel) Vault, Store, etc.]**
David Lupton's Sons Co., Philadelphia, Pa.
- Sherardizing.**
St. Louis Brass Mfg. Co., St. Louis, Mo.
- Shingles. (Metal.)**
Berger Mfg. Co., Canton, Ohio.
Cortright Metal Roofing Co., Philadelphia, Pa.
Edwards Mfg. Co., Cincinnati, O.
Hyndman Roofing Co., Cincinnati, O.
Merchant & Evans Co., Philadelphia, Pa.
Milwaukee Corrugating Co., Milwaukee, Wis.
Southern Sheet & Tin Plate Co., Ashland, Ky.
- Ship Chandlery.**
Larkin & Co., J. K., New York, N. Y.
Schap 1 C-nat. Mfg. Co., New York, N. Y.
Topping Bros., New York, N. Y.
- Shovels. (Steam, Gas, Electric and Power.)**
Ball Engine Co., Pa.
The Automatic Shovel Co., Lorain, O.
- Shutters.**
IRON.
Bolles Iron & Wire Works, J. E., Detroit, Mich.
STEEL ROLLING.
Kinross Mfg. Co., Columbus, O.
- Silos. (Metal.)**
Canton Culvert & Silo Co., Canton, O.
Fouts Co., C. C., Middletown, O.
Tennessee Metal Culvert Co., Nashville, Tenn.
- Skylights.**
Chattanooga Roof & Fdry. Co., Chattanooga, Tenn.
Hires Turner Glass Co., Washington, D. C.
David Lupton's Sons Co., Philadelphia, Pa.
- Skylights. (Puttyless.)**
Asbestos Protected Metal Co., Pittsburgh, Pa.
- Slag.**
Birmingham Slag Co., Birmingham, Ala.
- Slate. (Roofing, Sanitary, Structural, etc.)**
East Bangor Consol. Slate Co., East Bangor, Pa.
Johnson, E. J., New York, N. Y.
- Sluice Gates and Appliances.**
Coldwell-Wilcox Co., New York, N. Y.
- Smokestacks. (Iron and Steel.)**
Chattanooga Boiler & Tank Co., Chat'n'ga, Tenn.
Chicago Bridge & Iron Works, Chicago, Ill.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Lombard Iron Works, Augusta, Ga.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Schofield Iron Works, Macon, Ga.
Virginia Bridge & Iron Co., Roanoke, Va.
- Soda. (Bicarbonate.)**
Church & Dwight Co., New York, N. Y.
- Sodium Sulphide. (Fused 40 Per Cent.)**
Reilin Chemical Co., Inc., Charleston, W. Va.
- Spelter.**
New Jersey Zinc Co., New York, N. Y.
- Spikes. (Railroad, Ship.)**
Bethlehem Steel Co., South Bethlehem, Pa.
Hoffman & Co., Inc., B. C., Baltimore, Md.
Larkin & Co., J. K., New York, N. Y.
Schaper Const. Material Co., New York, N. Y.
Topping Bros., New York, N. Y.
- Sprinklers. (Automatic.)**
Globe Automatic Sprinkler Co., Phila., Pa.
- Sprinkler Tank. (Steel.)**
Chicago Bridge & Iron Works, Chicago, Ill.
- Spring Coiling Machinery.**
Sleeper & Hartley, Inc., Worcester, Mass.
- Springs. (Machinery, Railway, Spiral.)**
Cary Spring Works, New York, N. Y.
Raymond Mfg. Co., Ltd., Corry, Pa.
- Sprocket Rims. (Adjustable for Valves.)**
Babbitt Steam Specialty Co., New Bedford, Mass.
- Stamp Mills.**
Mecklenburg Iron Works, Charlotte, N. C.
- Stamps. (Brass, Rubber.)**
Baltimore Office Supply Co., Inc., Baltimore, Md.
Dorman Co., J. F. W., Baltimore, Md.
- Standpipes.**
Chattanooga Boiler & Tank Co., Chat'n'ga, Tenn.
Chicago Bridge & Iron Works, Chicago, Ill.
Des Moines Bridge & Iron Works, Des Moines, Ia.
Hartley Boiler Works, Montgomery, Ala.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Struthers-Wells Co., Warren, Pa.
- Statistics.**
Babson's Statistical Organization, Wellesley Hills, Mass.
- Stationers. (Envelopes, Letter & Billhead, etc.)**
Young & Selden Co., Baltimore, Md.
- Steam Feeds.**
Soule Steam Feed Works, Mer dian, Miss.
- Steamship Lines. (Leastwise.)**
Baltimore Steam Packet Co., Baltimore, Md.
Chesapeake Steamship Co., Baltimore, Md.
- Steam Hammers.**
Niles-Bement-Pond Co., New York, N. Y.
- Steam Shovels.**
American Clay Machy. Co., The Bucyrus, O.
Ball Engine Co., Erie, Pa.
Fairbanks Steam Shovel Co., Marion, O.
Keystone Driller Co., Beaver Falls, Pa.
Osgood Co., The Marion, O.
Sherrwood, E. G., New York, N. Y.
The Automatic Shovel Co., Lorain, O.
- Steam Shovel Chains.**
American Chain Co., Bridgeport, Conn.
- Steam Specialties.**
Babbitt Steam Specialty Co., New Bedford, Mass.
Crane Co., Chicago, Ill.
Lunkenheimer Co., The Cincinnati, O.
- Steam Traps.**
John-Manville Co., H. W., New York, N. Y.
- Steel.**
Atlantic Steel Co., Atlanta, Ga.
Bethlehem Steel Co., South Bethlehem, Pa.
Bourne-Fuller Co., The Cleveland, O.
Cambria Steel Co., Philadelphia, Pa.
Carnegie Steel Co., Pittsburgh, Pa.
Century Steel Co. of America, New York, N. Y.
Dietrich Bros., Baltimore, Md.
Hoffman & Co., Inc., R. C., Baltimore, Md.
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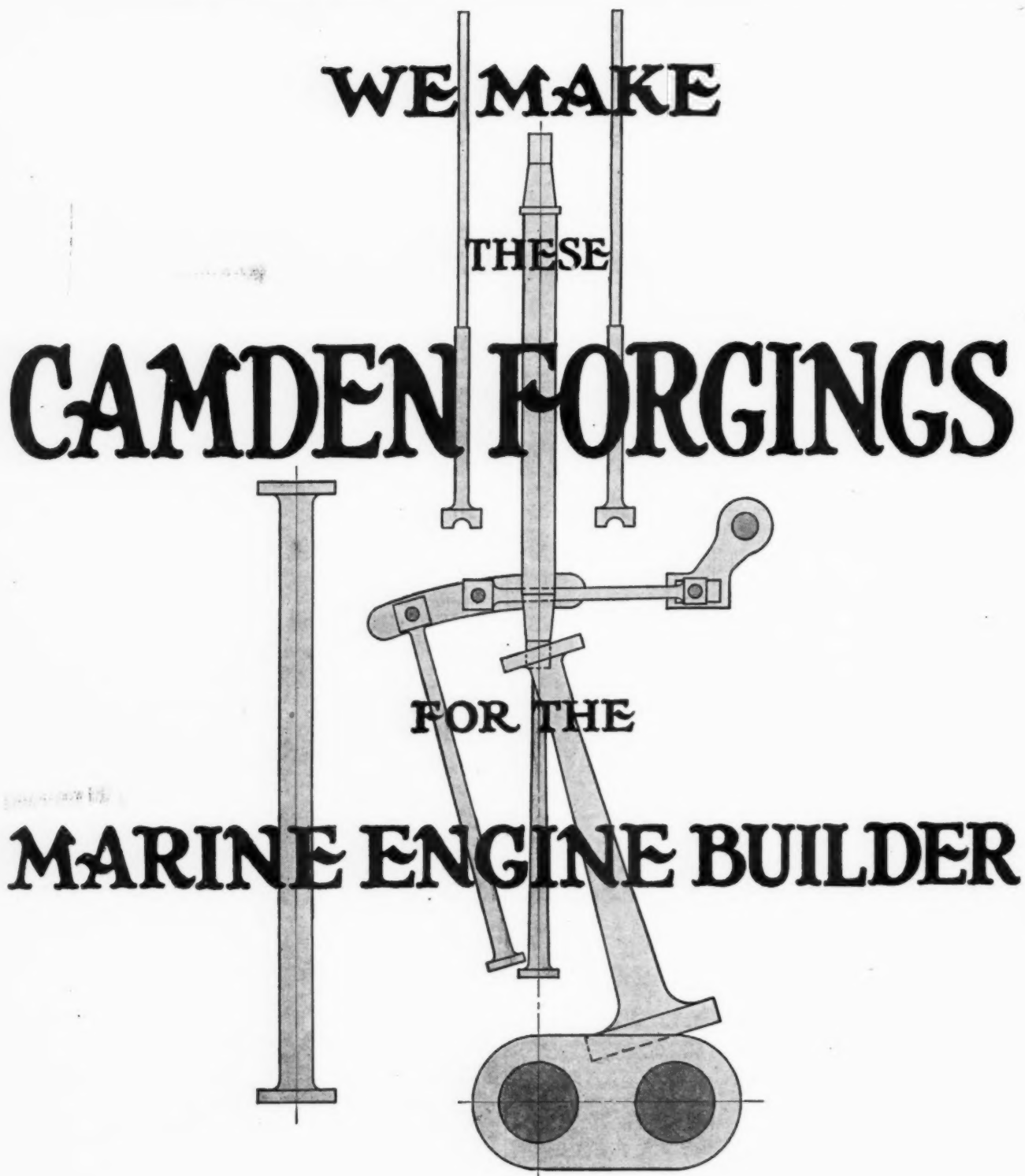
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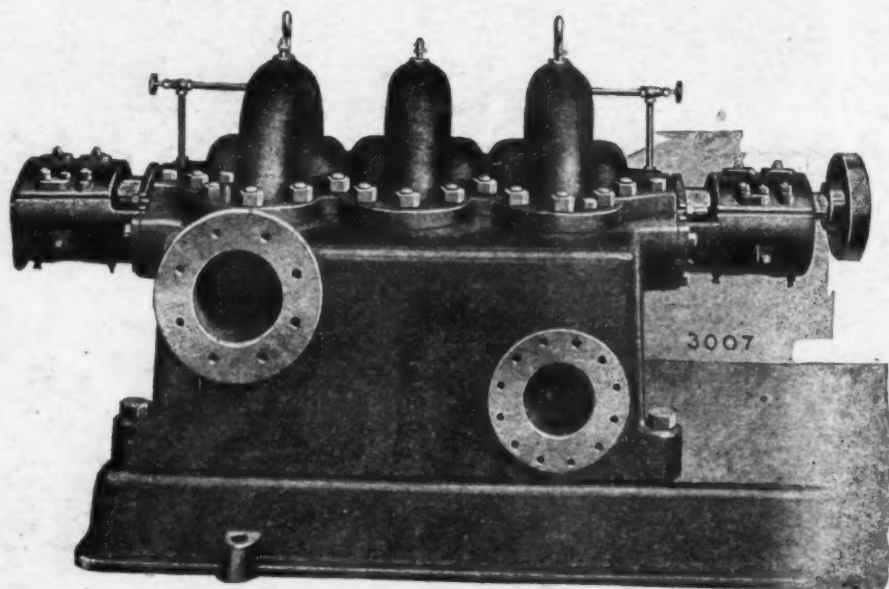
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INDUSTRIAL NEWS OF INTEREST

(Continued from page 82.)

W. H. Bramman's New Position.

The Walter A. Zelnicker Supply Co., St. Louis, Mo., recently secured the services of W. H. Bramman, who is acting as assistant to the president. Before being associated with the Zelnicker Supply Co., Mr. Bramman was connected with the American Carbon & Battery Co.

To Deal in Iron and Steel Products.

It is announced that the Greene-Wolf Company, Inc., Hudson Terminal Building, New York City, is organized to conduct a general business in iron and steel products, including wrought iron and steel pipe, tubular goods and structural shapes. D. Greene is president and G. Wm. Wolf, secretary-treasurer, both of whom were formerly with the Eagle Pipe Supply Co., Inc., the first as secretary. M. J. Baumgarten is vice-president.

Timely and Valuable Waterproofing.

"Preservo" is the name of a preparation which is of particular value at this time for the waterproofing and preservation of canvas because of the scarcity and high cost of cotton duck. It is especially to be desired on canvas used for protecting cotton in temporary storage, as it affords an economical and complete safeguard against the effects of stormy weather. This preservative is easily applied with a broad brush, and it may be employed effectively on either old or new canvas, which it makes watertight. It is manufactured by the Robeson Preservo Products Co., Port Huron, Mich., which is represented in 14 Southern cities.

TRADE LITERATURE

An Appropriate Tribute.

The annual meeting of the Ransome Concrete Machinery Co., held recently at the Dunellen plant, Dunellen, N. J., and the Queen City Hotel, Plainfield, N. J., was distinguished by the issue of a handsomely prepared booklet which included, besides the menu of the annual dinner, a fine tribute to the memory of the founder of the company, Ernest L. Ransome, who died last spring, this being accompanied by a splendid photographic likeness of him. There are also a number of patriotic songs and anthems, including the Star-Spangled Banner.

A Valuable Du Pont Booklet.

There has just been issued a handy booklet giving a list of all products made by the E. I. du Pont de Nemours Company and its associated companies, namely, the Du Pont Chemical Works, the Du Pont Fabrickoid Co., the Arlington Company and Harisons, Inc. This publication does not show who uses these products or how they are used, as does the Du Pont Products Book, but it will prove of interest and value to many business men in both mercantile and industrial lines. It is handy for the pocket, and will be sent to any address if requested from the home office at Wilmington, Del.

Varnishes and Lacquers for Military Use.

"How to Recognize the Arms of the Service." In the national colors, red, white and blue, Berry Brothers, Inc., makers of varnishes, Detroit, Mich., has issued an attractive folder describing and illustrating military insignia. These devices, it is further stated, are treated with lacquers of this make to prevent them from tarnishing. The finish on many of them in the various shades of bronze, or in black, is also produced with a special kind of lacquer or varnish. Large quantities of finishing material are supplied for these and similar purposes. A book on varnish and wood finishing will also be sent if requested.

Quick Work Filling Orders.

With the heading, "A Little Story About Service," the Cannerton Sewer Pipe Co., Cannerton, Ind., has issued a mailing card, saying that at 9.30 A. M. on August 9 one of the United States Government's contractors called on it for five carloads of pipe, with instructions to ship quickly. The cars were loaded by 3.30 P. M. and switched from the manufacturers' yards at 5.45 P. M. the same day, and were delivered on track at Camp Zachary Taylor, 10 miles south of Louisville, Ky., at noon the following day, only 26 hours after the order was received. Because of this promptness the company has received additional orders from the same contractors.

About the Snow Oil Pumps.

Bulletin No. S-112 of the Worthington Pump & Machinery Corporation, 115 Broad-

way, New York, is devoted to the Snow oil pumps. These pumps, of the duplex piston pattern, are made of several capacities, viz., for pressures not exceeding 150 pounds for general service, then the valve plate style for pressures not exceeding 500 pounds, next the valve pot style for pressures from 500 to 800 pounds, then the Snow oil line pressure pump for pressures from 500 to 800 pounds regularly or shock pressures up to 800 pounds, and finally the Snow standard pattern oil line pressure pump of the valve plunger style for 2000 pounds pressure. These are all illustrated and described, as is the Worthington duplex piston oil meter.

"Sterling" Ice and Refrigerating Machinery.

The United Iron Works Co., Springfield, Mo., has issued Catalogue No. 207, covering its line of "Sterling" refrigerating and ice-making machinery. In the preparation of this publication the company has endeavored to make it as concise as possible for use to some extent instead of bulletins heretofore employed, but at the same time to permit it to dwell upon all of the apparatus that may be employed by all users of ice manufacturing and refrigerating equipment. The company announces that it preserves a complete record by serial number and drawings of every machine which it builds, so that replacements and repairs can be accomplished at any time without delay. The book is finely illustrated, and the presswork is of the best character. Tables and other data add to its completeness.

Acid-Proof Towers, Etc., For Fertilizer Makers.

The B. Midlin Hood Brick Co., Atlanta, Ga., has issued two bulletins relating to its products. Both are illustrated. One concerns the fertilizer plant Glover tower, built of Hood's chemical brick and acid-proof cement, which, it is said, improves with time and resists the action of niter. This type of construction has been successfully used for from four to twelve years at seven places in this country and in Europe. Another page refers to Glover and Gay Lussac towers, built of acid-proof masonry, lined with double-thick Hood's "Pottry" acid-proof tiles and packed with Hood chemical rings. The battery of seven concentrators built of the same materials is also pictured. The Chemical Construction Co. was the engineer and contractor for each. The other bulletin relates to spiral chemical rings, also made by this company for scientific tower packing. Acid-proof blocks and rings made by the German process are likewise illustrated.

"Climax" Geared Locomotives.

The Climax patent geared locomotives are described in Catalog K of the Climax Manufacturing Co., Corry, Pa., a handsome book which has just been issued. These engines have distinct features which make them more than ordinarily efficient in lumber operations, coal mines, fire-clay banks, stone quarries and other lines of industry, being especially designed for meeting the requirements of unusual transportation conditions. "They are reliable and economical in maintenance," says the builder, "giving long service with little attention on roads constructed of light rails, or where the roadbed is rough or uneven, or has steep grades and sharp curves, on account of their special design and the superior quality of material used in their construction. . . . They are built for any gauge of track, either of steel or wood." The illustrations show the regular stock sizes built, which meet a wide range of requirements.

A Superior Full-Revolving Shovel.

The "Type B Erie Shovel," built by the Ball Engine Co., Erie, Pa., is fully described as to specifications, etc., in a new book just issued by the builders. In this standard type three-quarter yard full revolving shovel, traction or car wheels are interchangeable on the same truck frame. "In every detail of material and workmanship," says the book, "the shovel will be built to an unequaled high standard, with the object of producing the best revolving shovel on the market. All materials will be carefully selected and tested, superior in quality to the materials usually employed, and particularly adapted to the requirements. All parts will be made to gauge and carefully inspected. All parts subject to wear will be manufactured on the interchangeable duplicate plan. They will be machined to jigs, gauges and templates, insuring absolute uniformity. The diagrams and other illustrations in the book are of superior execution, and the reading matter is fully explanatory.

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